

THE
ARCHITECT
& BUILDING NEWS

IN THIS ISSUE

- CHIPPINGFIELD HOUSING SITE
- INFORMATION DIGEST
- CURRENT MARKET PRICES

JANUARY 26, 1951 · VOL 199 · NO 4284 · ONE SHILLING WEEKLY



**BUILDING
THROUGH THE
AGES
No 5**

Hampton Court Palace

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It is unfortunate that to-day a great deal of the lovely Tudor palace, built by Cardinal Wolsey, has vanished. Enough is left, however, of its warm,

mellow brickwork and oriel windows to indicate the charm of the original building.

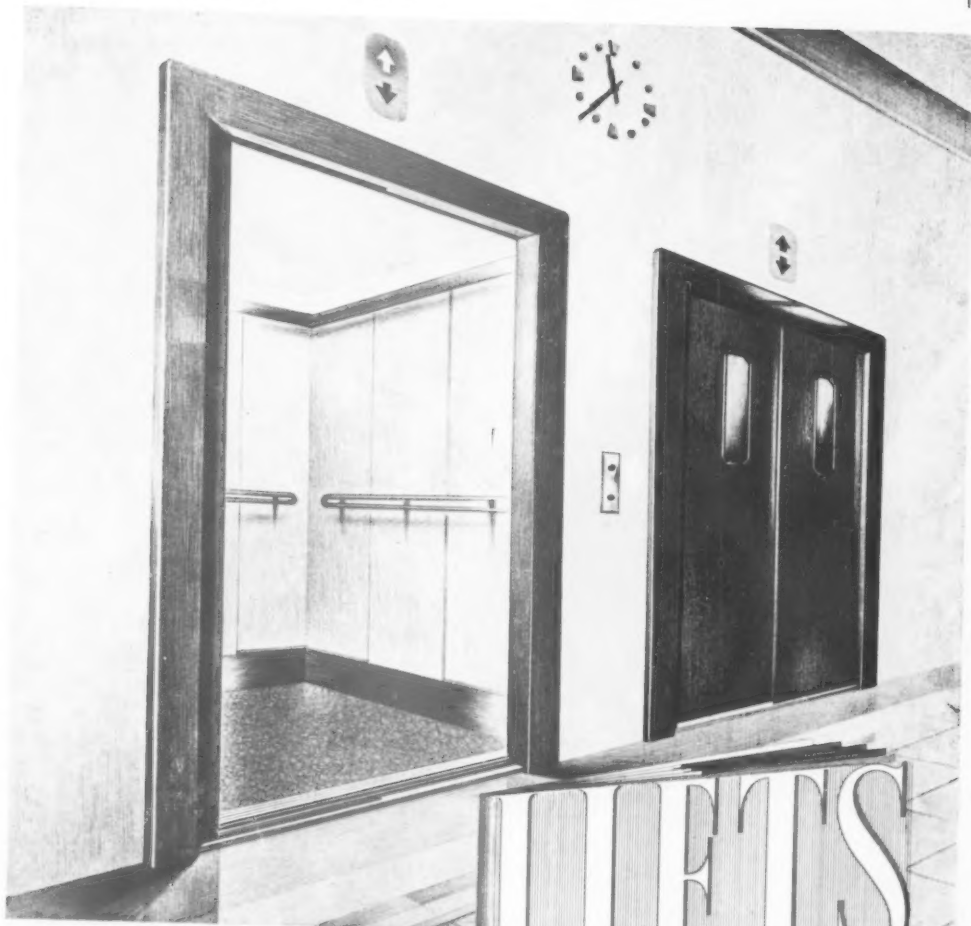
William the Third was largely responsible for the extensive alterations which destroyed so much of the earlier Tudor erection. To his credit, however, the reconstruction was placed in the talented hands of Sir Christopher Wren.

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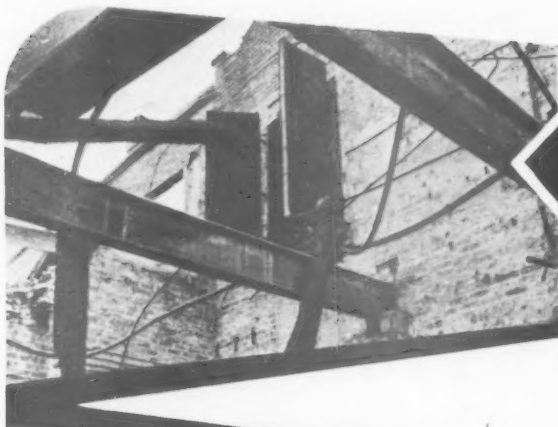
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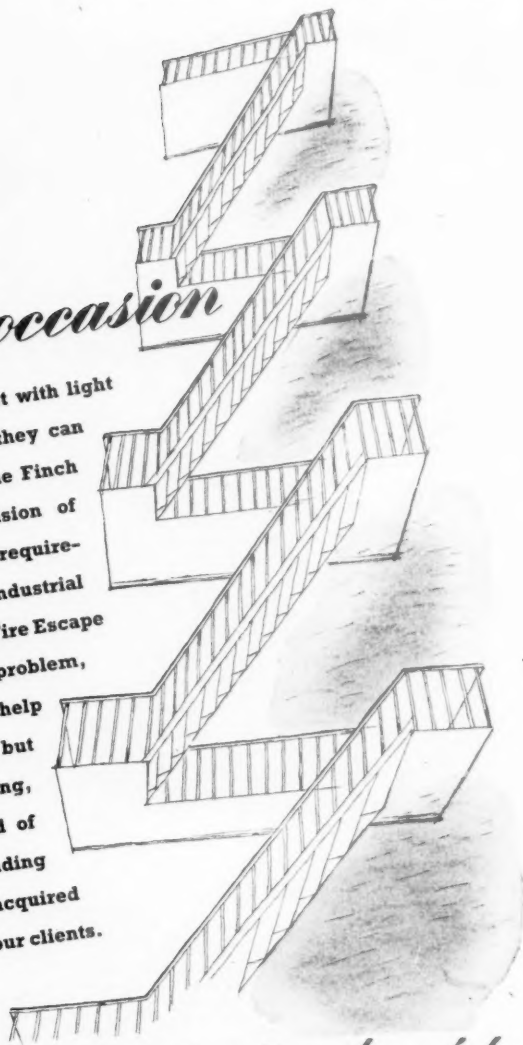
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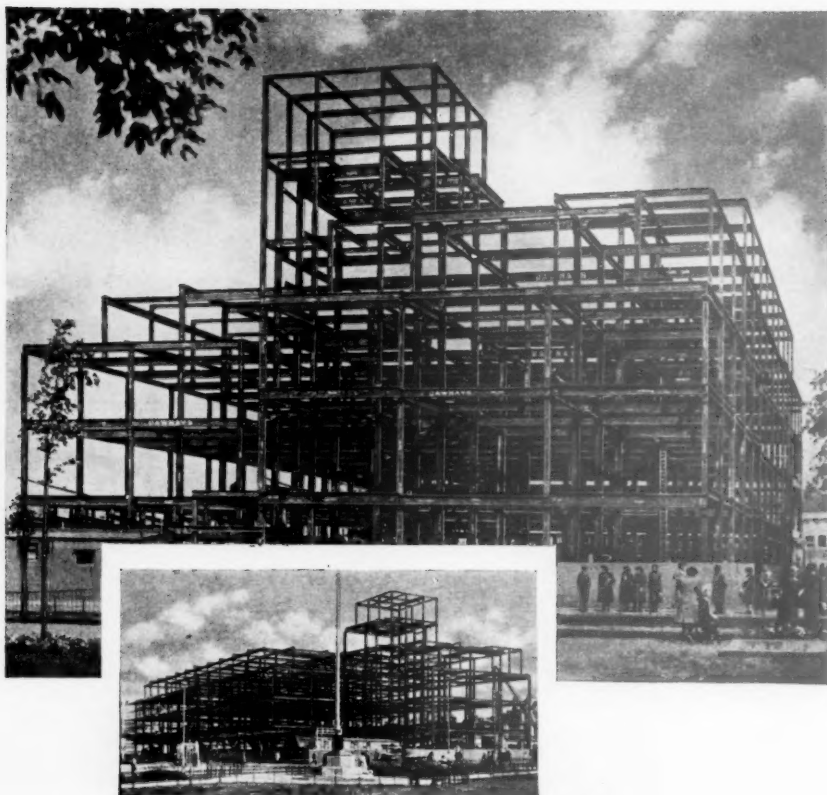
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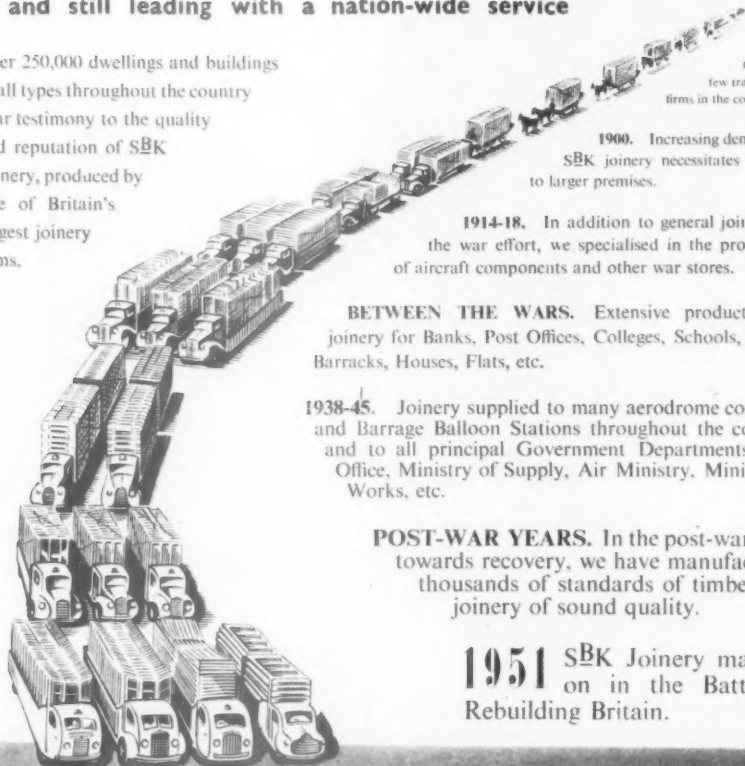
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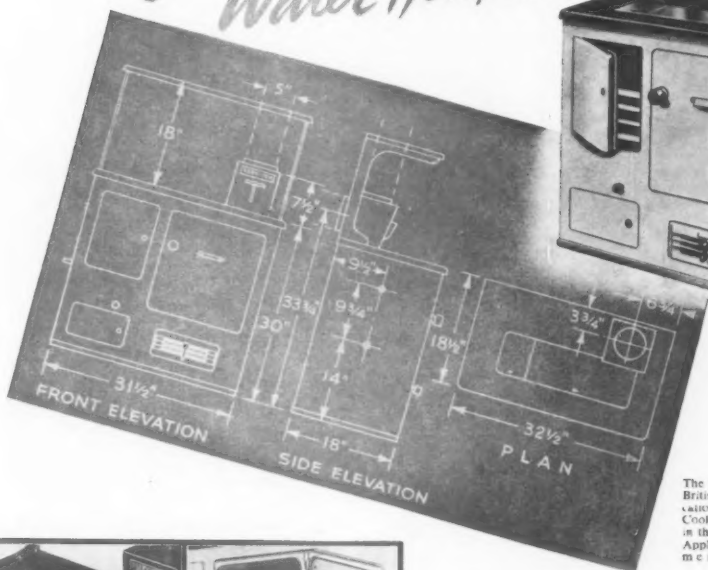
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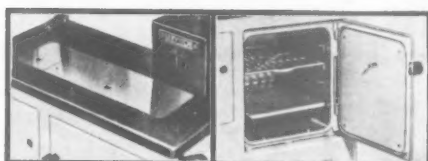
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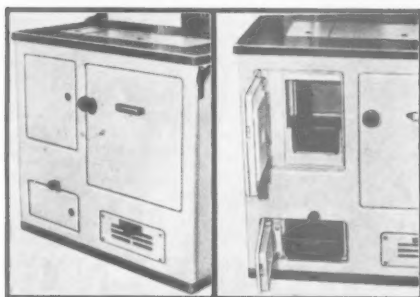


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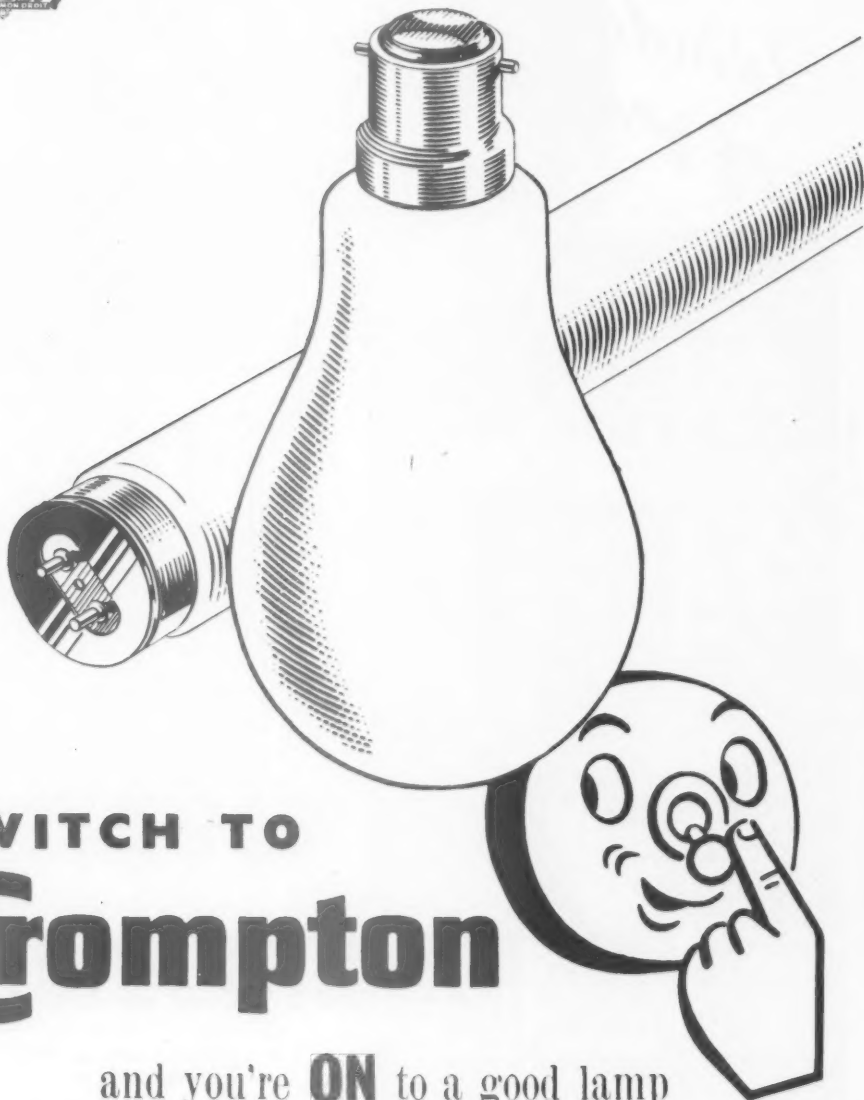
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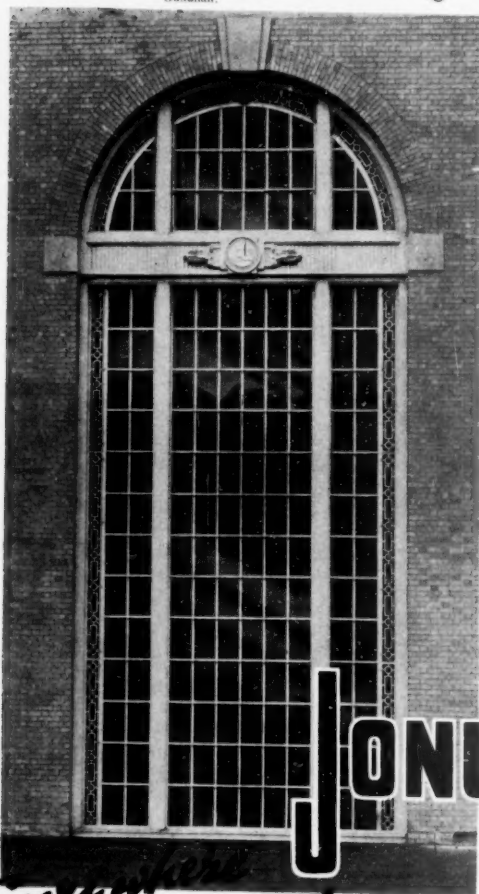
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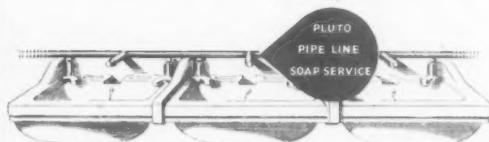
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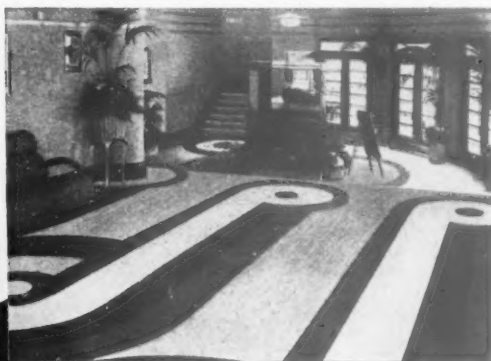
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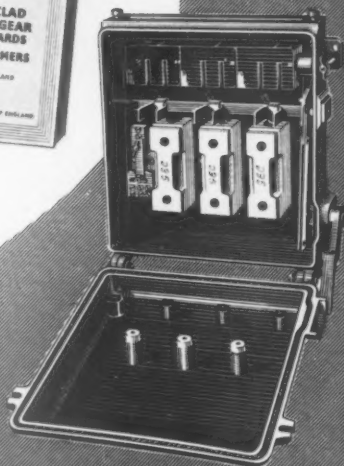


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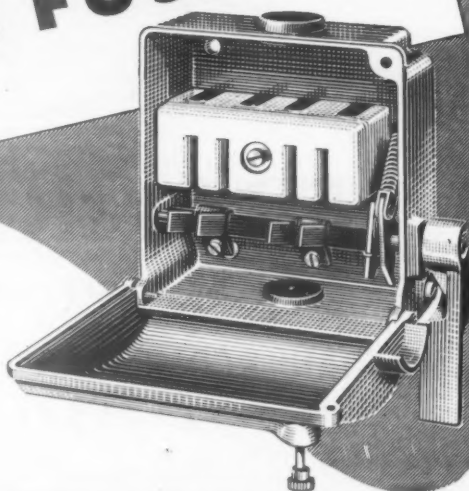
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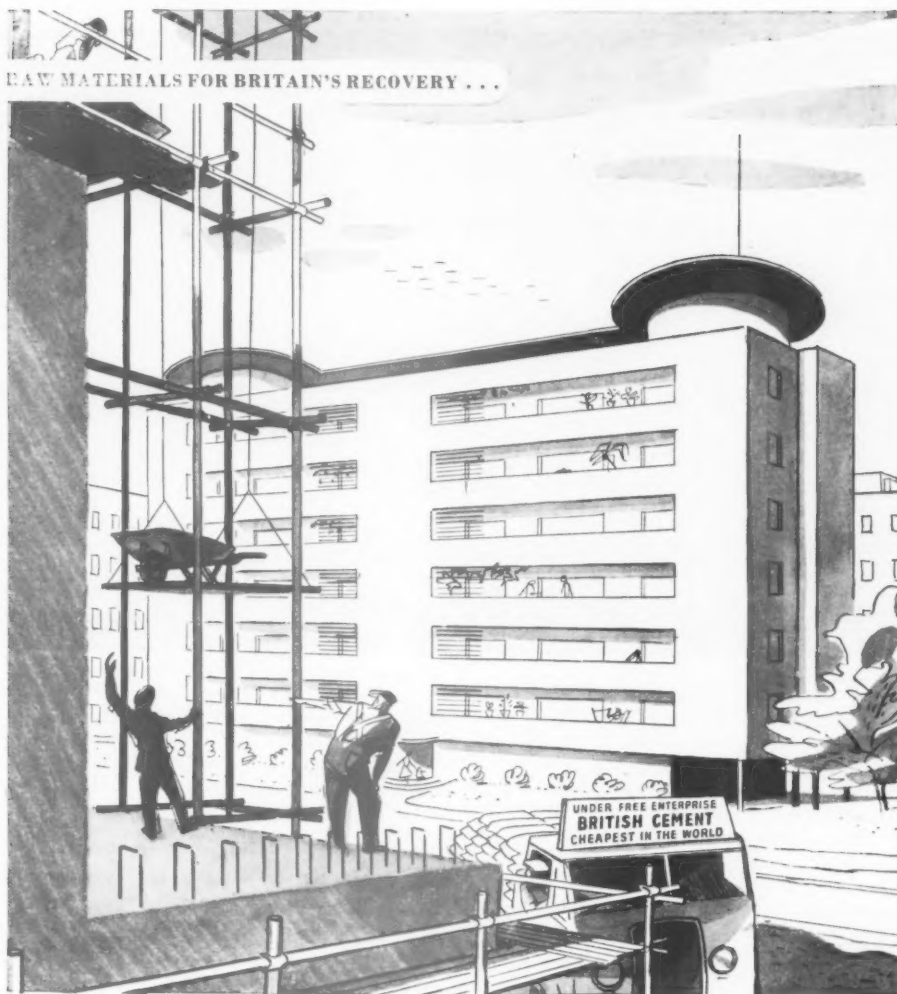
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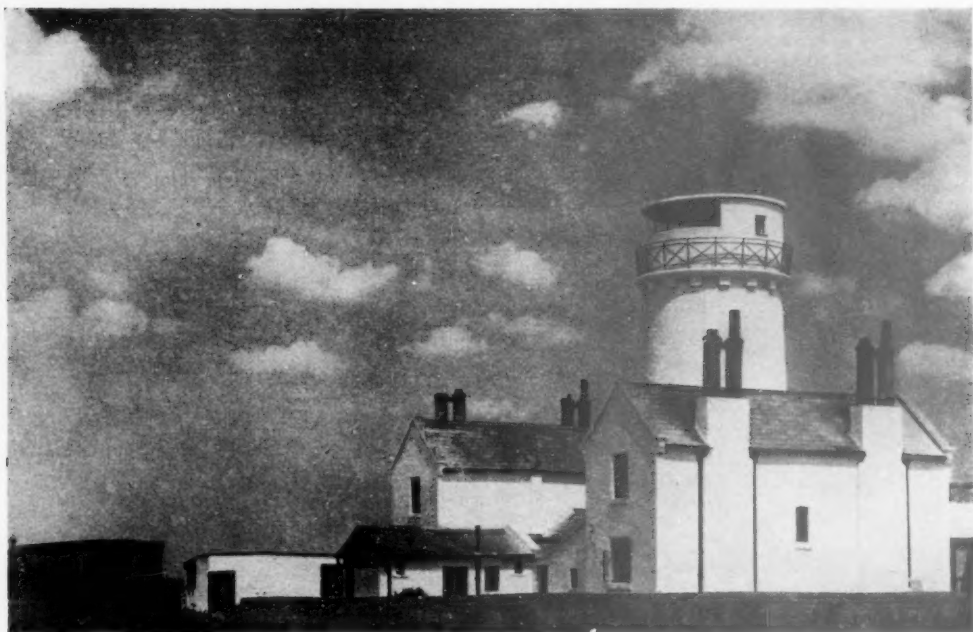
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MINISTERIAL REMOVES

ALTHOUGH new appointments and allocations of duties must be judged by results, there can be little doubt that the recent changes in the Cabinet should contribute something to the co-ordination of national planning. Apart altogether from personalities, the transfer of housing from the Ministry of Health (already overburdened by new post-war legislation) to the Ministry of Town and Country Planning is putting this continuous and urgent problem in the right tray for increased attention. If the change makes only for greater balance between the use or waste of agricultural land for housing, schools or industry, it will have been worth making. At any rate, the rival claims of various kinds of development in local areas will be subject to more direct "general oversight" by the Minister, Mr. Dalton. Any tendency there has been lately to encourage local-area initiative must not be discouraged by this greater centralisation of housing

and local government within the Ministry of Town and Country Planning. Decisions and directives, now that they come from one Ministry, instead of two, must not be less open or democratic, for the gain in negotiation time must outweigh any adverse effects from greater concentration of administration.

The tug-of-war will come when Mr. Dalton, in new and more flexible freedom of action, demands an extension of the housing programme or of planning development generally, only to find the required materials being allocated to defence and rearmament and labour being absorbed, if not directed, by Mr. Bevan into new channels of national service. The real problem is still that there are so many trained workers and so much suitable material in the world; they can only be redistributed, not increased, except by means of long-term policies.

HOUSES AND SCHOOLS

SOME considerable uneasiness has been expressed in various places recently about the lack of schools for the new housing developments of our larger towns.

What appears to be happening is that new housing developments go on apace, generally on "new" land on the outskirts of towns and that school development is, at the same time, confined to the provision of accommodation for the children of existing and older areas, in making up the war-time deficiencies, repairing war damage and adding extra classrooms to existing schools to meet the raising of the school-leaving age.

In the Glasgow area, for instance, we are told that in three of the new satellite developments only about one-third of ten-thousand children can be

accommodated in schools near their homes. In consequence, the children have to be transported by special buses at a cost of £1,200 per week, with an additional £600 per week for the issue of "travel tickets" for those children able to use public-transport facilities. Thus, in this case, something like £75,000 per annum is expended on a single item—transport—to overcome the lack of planning integration between housing the people and educating their children. Much of this state of affairs is no fault of the Local Authorities but rather of the general national policies laid down by Acts and Ministries.

It is not altogether a new problem; when, between the wars, our towns were being expanded by free enterprise and the "house-for-sale" was the major method of meeting the housing demand, whole

areas of the outskirts of our large towns and cities found themselves without schools and, even, without made-up roads. But the problem was not quite so acute then because many of the occupants of the new houses were of a class or of relative wealth to cope with the problem "off their own bat"; then, also, there was no extra school-leaving year or war-time losses to meet.

To use busy public roads and transport for moving children from homes to schools is to accentuate acutely already intensive traffic difficulties and to risk increasing the present high level of road accidents. To talk about building fewer schools in order to find resources for building more houses, a "box-and-cox" sort of argument, indulged in even in quite responsible quarters, is manifestly absurd.

Another lack of integrated planning-thought seems to be in regard to the type of school being built to meet the present high demand. Permanency

should not be the top-priority criterion. Bungalows use up more land than multi-storied buildings and the present standards laid down for playing-field areas absorb much good market-garden or agricultural land, apart altogether from the demands of housing. And, cannot playing-fields be shared more often by several schools and even used by the general public for fresh air, walking and resting?

Points like these serve to remind us of things we have said before. It is no good trying to plan inside water-tight compartments. Once more we would plead for more co-ordination between the requirements of different Departments and for more knowledge of the relationships between the main factors of planning.

Town and country planning cannot benefit the community fully if opposition of conflicting factors is allowed to continue; half the problem is to recognise a conflict when it exists, but even that is not the aim, it seems, in some quarters.

EVENTS AND COMMENTS

THE ROYAL GOLD MEDAL

THERE has been a good deal of tongue clacking and tooth sucking among architectural gossips over the award of this year's Royal Gold Medal to Mr. Vincent Harris. It is indeed a considerable blif in the eye for those who had begun to think that contemporary architecture had arrived in this country. Some people think that it is the "opposition" answer to the design trends of the Festival of Britain, others that the former distinction between a knighthood for services to architecture and the award of the Royal Gold Medal has disappeared. If this should be so it is a very great pity.

ARCHITECT IN THREE CONTINENTS

MAXWELL Fry, who has considerable claim to being regarded the foremost contemporary architect in the country, is rapidly developing a global practice. The current rumour, which I understand contains strong elements of truth, is that Fry is in Pakistan having preliminary talks about his appointment as consultant for a new capital. It is said that the job was first offered to Le Corbusier, who turned it down; when, however, he heard about Fry's acceptance, he is reported to have wired suggesting collaboration. If this is true, it is the biggest architectural news for a long time.

Maxwell Fry, Jane Drew & Partners have already a considerable practice in this country and one of their recent jobs was illustrated in the *A. & B.N.* only last week; in addition they have a university and much other work in West Africa. One way and another the firm is in for a lot of travelling.

HONG KONG SCHOOL OF ARCHITECTURE

A STATEMENT on the formation of a Department of Architecture in the University of Hong Kong appears on another page. My picture shows Professor



Gordon Brown at work in one of the studios. The Professor has been appointed consulting architect for the university's very large building programme, and he is already engaged on designing a country school for his department on an island two hours' boat journey from Hong Kong. This sounds very like the student's dream subject and reminds me of the cathedrals on the rocky promontory. Judging by the goings-on in China, Professor Gordon Brown, who I imagine is already a strong pillar of the local auxiliary forces, would be well advised to incorporate some of Vauban's principles in his design.

MOBILES AND STABLES

IT is perhaps ungrateful to say that I was disappointed by Alexander Calder's exhibition of Mobiles and Stables at the Lefevre Gallery. Seen in the mass these singularly fascinating contraptions lose a good deal. Some of those shown are very large and are designed to stand on the floor; others are quite small and can be perched like the conventional wooden cut-out parrot on the edge of something. The ground sort are very bad for nylons. After fetching most of those in the exhibi-

tion a poke to make them less stabile, I came to the conclusion that they were insufficiently mobile, their suspension seemed to need oiling. Once moving, they were very pretty but did not compare with the work of our own mobiliste, Lynn Chadwick, who is, you may remember, making a very large one for the Festival. The prices of these rather shabby and complicated pater-nosters range from £160 to £600. My favourite mobile is made of pieces of painted glass and costs half-a-crown. It has the additional advantage of making a pleasant noise.

PROPOSED TRANSPORT MUSEUM

SOME time ago I wrote about folk museums and the need for a museum of horse-drawn appliances. I am therefore very pleased to see a proposal in *The Times* that the old Nine Elms Station, designed by Sir William Tite, should be turned into a transport museum. I hope that it is not intended that the exhibits should only include public transport. Such examples as survive of the Age of Elegance in the horse-drawn are presumably in private collections. There is no knowing what may not be found in the coach-house. Recently a friend of mine took an Australian visitor to see Professor Richardson at Amptill. They arrived first and were able to greet the Professor as he climbed out of an elderly four and a half litre Bentley. My friend commented on such an anachronism in the Professor's otherwise largely eighteenth-century setting and said that he at least expected a coach and four. "One moment, dear boy," said the Professor with a characteristic squeeze of the arm, and flinging open the garage doors, he revealed the very thing.

OTHER PEOPLE'S HOUSES

FLIPPING through the pages of one of those gorgeous coloured publications which concern themselves with how the apparently not immensely rich live, I began to wonder whether the illustrations could represent real homes. Where, I wondered, do the children put their sticky, dirty fingers in that room? Where is the mending, the ironing, and the washing up done? Those bottles, which now perhaps are empty, certainly once contained expensive elixirs, those chairs appear never to have been sat on. How does it all look when it is being lived in? The camera, I was reminded the other day, always lies; perhaps it is sometimes just as well.

OIL FUEL

MY remarks about rising fuel oil production and shortage of solid fuel a few weeks ago have brought me two letters, one accusing me of enthusiasm for "anything American." The last time I took side about things American I commented on a film and was promptly castigated by a reader for biting the feeding hand. The second letter from a firm of heating engineers points out that they have been manufacturing a domestic oil burner based on an American pattern for twenty years. The point that I was attempting to make was that in this country there is no self-contained boiler and oil burner made which corresponds to the neat cased models available in America.

MINISTRY OF HEALTH ARCHITECTS' DEPARTMENT

INQUIRIES at the press office of the M.o.H. about the fate of the Architects' Department there did not get me very far. A voice told me that it was too early to say what was happening, but that, as far as he could

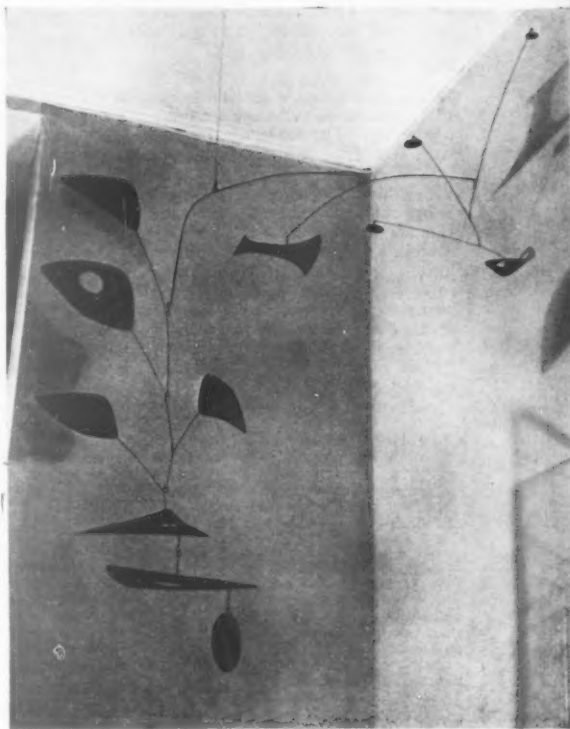


Photo: J.D. Rider, Paris

One of Alexander Calder's mobiles at the Lefevre Gallery

see from his window, there were "no little ants running across Whitehall."

Whatever the fate of the architects, let us give them three times three for their housing manuals and other publications and for their work on the three-storey terrace house. As to the housing problem, well, Tweedle-Dai will have to argue that one out with Tweedle-Ton.

While on the subject of ministerial changes and with one eye on the Minister of Labour and the other on a possible invitation to help with the coal harvest, I am considering taking out Polish citizenship.

ADVICE TO TECHNICAL AUTHORS

JOHN Gloag has an output of books which very nearly puts him in the same class as Edgar Wallace. His latest is *How to Write Technical Books* (George Allen & Unwin, 12s. 6d.). I recommend it to would-be writers. The trouble about writing is that you start off light-heartedly enough and without any knowledge of the rules, except those you learned at school and have picked up from general reading. Suddenly you realise that you are a professional journalist, even if you only write on Sundays. As a professional you have all sorts of responsibilities such as putting the correct signs on proofs and using capital letters in the right place and so on. Mr. Gloag tells you how to do all this and much more in his own brisk way. He is also most instructive about publishers, contracts, illustrations and type faces

and sizes. I only hope that authors of future technical books will take the advice so ably offered.

DOMUS

THE production of the Italian periodical *Domus* becomes more and more splendid, and the price goes up and up. The November-December issue contains a large number of illustrations of exhibits from an exhibition of Italian Decorative Art which is touring the United States. The exhibition is being accompanied by a big sales drive organised by the House of Italian Handicraft Inc. of New York, as articles similar to those exhibited are all for sale to the public. The exhibition includes a number of furnished rooms, among them the foyer to a children's theatre where the seats are supported on life-sized crouching figures, a sort of old maid's dream come true. The ceramics in the exhibition are particularly interesting, but much of the furniture is of the pin, cotton and walnut shell variety familiar to regular readers of *Rainbow*.

Domus illustrates an Italian variation of the familiar

Scandinavian horizontally hung window. In addition to being double glazed with a venetian blind between the sheets, the whole window can be brought into the room for cleaning. It looks as if it uses a great deal of timber. Apart from their cost, the trouble with these high grade internationally known papers is that they all tend to show the same material sooner or later. This is some slight compensation to those who cannot afford to subscribe to more than their particular favourite.

ELECTRICAL FLOOR HEATING

I HEAR that experiments are being carried out by the Electrical Research Association into the possibility of heating solid floors by electricity. The idea appears to be that it should be possible to heat up the floors with electricity obtained at night or in off-peak periods and then to switch off. If suitable arrangements were made it is said that concrete floors would stay reasonably warm for long periods.

ABNER

NEWS OF THE WEEK

The Rt. Hon. Richard Stokes, M.P., Minister of Works, will reply to the toast of His Majesty's Government at the annual dinner of the National Federation of Building Trade Employers, to be held at the Dorchester Hotel, on Tuesday, January 30. The Dowager Marchioness of Reading will reply to the toast of the guests.

★

The annual dinner of the London Branch of the Institute of Quantity Surveyors was held at the Comedy Restaurant, Panton Street, W.1, on Friday evening, January 19.

Some one hundred members and their guests were present and the chair was taken by Mr. E. G. Cornish, B.Sc., F.I.Q.S., Chairman of the Branch.

Replying to the toast of the Institute the President of the Institute, Mr. J. Gregg, F.I.Q.S., said that the principal aim of the Institute was to establish the practicability of combining both professional and contractors' Quantity Surveyors in one Institute with the same code of conduct. Considerable progress had been made in achieving this aim, and this would, he hoped, continue.

★

The 39 designs which were submitted in the competition for the proposed extensions of the Edinburgh University Medical Buildings on the north side of George Square are to be on exhibition in the McEwan Hall from February 5 to 10. The wisdom, or reverse, of demolishing this side of George Square, bearing in mind the richness of the Square's historical and biographical association, is being hotly debated in Edinburgh at the present time.

In his report on the designs submitted, the Assessor, Mr. A. G. R. Mackenzie, of Aberdeen, states that alone amongst the competitors, Mr. W. N. W. Ramsay, of the firm of Messrs. C. J. McNair,

Elder & Ramsay, of Glasgow, had produced a facade to George Square, which, while not in detail reproducing the eighteenth century domestic architecture, was in harmony with it, so that the general character of the Square could be preserved.

★

Mr. Thomas C. Cordiner, F.R.I.B.A., Glasgow, has been elected Chairman of the Joint Standing Committee of Architects, Surveyors and Building Contractors in Scotland for 1951-53.

★

A post-war record in the City of Glasgow was set up in 1950 by the completion of 4,155 permanent houses in the city. In 1949 the Corporation completed 4,011 houses and in 1948, 2,522. Under construction at December 31 were 5,123 houses.

★

The War Damage Commission paid out £92 millions during 1950, £13 million less than in 1949. A total of £947½ million, in 4,140,000 separate payments, has been reached since the Commission began paying out in 1941. Contributions by property owners totalled £198 million.

Claims paid for "cost of works" repairs during the year numbered 290,000, and there were 47,000 payments on account. The amount involved was £76 million, of which £73 million was paid to private owners, and the rest to local and other public authorities. About two thirds of this sum was for the repair and rebuilding of houses.

Other principal items were: commercial buildings, £7½ million; factories, £7 million; shops, £2½ million; churches, £2½ million.

Value payments for "total loss" properties amounted to £16 million, of which £4½ million related to houses.

The number of cases where owners

sent specifications of proposed repairs to the Commission for agreement before beginning the work was £172,000 during the year.

★

320 designs have been submitted in the competition organised by *The Builder* for a terrace house to cost not more than £1,000. 460 applications for conditions were received. The competition closed on January 17.

The designs will be placed on exhibition at the Conference Hall, County Hall, Westminster Bridge, S.E.1 (by kind permission of the London County Council) from Monday to Saturday, February 19-24 next.

The independent quantity surveyor appointed by the promoters to check the estimates of competitors is Mr. Edward H. Palmer, F.R.I.C.S. (of Messrs. Gardiner & Theobald, Chartered Quantity Surveyors).

★

Mr. Anthony M. Chitty, F.R.I.B.A., will visit Yugoslavia between January 24 and February 12 to lecture for the British Council. The tour, which has been arranged in conjunction with the Yugoslav government, will include Belgrade and the main Yugoslav cities where he will lecture to specialists audiences on "Architectural design and construction in Britain to-day" and "Town Planning in Britain." He will also hold discussions with groups of architects and architectural students.

★

On the invitation of the President of the R.I.B.A., Mr. D. H. McMorran, F.R.I.B.A., has undertaken to give the criticism of the drawings submitted in competition for the R.I.B.A. Prizes and Studentships, 1951-1952.

Mr. D. H. McMorran's criticism will be delivered at a General Meeting of the Institute to be held in February, 1952.

University of Hong Kong Department of Architecture

The following statement by the Vice-Chancellor of the University of Hong Kong has been received:

A year or so ago the University of Hong Kong decided to include in its development programme the founding of a School of Architecture; this policy was prompted not only by the fact that there existed in the Far East as yet no such school, but also because it would make available to western science the wealth of tradition and achievement of centuries of Chinese architectural art.

In 1950 it was decided to put the plans into operation, and in September Professor R. Gordon Brown, of the University of Edinburgh, was appointed to the Chair.

The Department is housed in the new Duncan Sloss School of Engineering and Architecture and has excellent workshop facilities where the nature and properties of simple building materials can be demonstrated and where students themselves can experiment with both machines and materials. For landscape and surveying field work, a site has been acquired on the island of Lan Tau about two hours by boat from Hong Kong, and Professor Gordon Brown is already designing a "Country School" to be erected there for the use of both undergraduates and staff.

The course is of five years duration and leads to the degree of Bachelor of Architecture; there will be both Honours (1st and 2nd Class) and Pass degrees, and Honours graduates together with suitably qualified graduates of other universities, will be eligible to supplant for a higher degree, Master of Architecture. The examination for this degree will be by thesis, the preparation of which must entail at least one year's post-graduate study on a subject approved by the Senate. The course for the qualifying degree is so designed that it is confidently hoped that it will eventually be recognised by the R.I.B.A.

For the next few years at any rate the students are assured of close association with actual practical work for the University's large building programme has been entrusted to Professor Gordon Brown, who has been appointed its Consulting Architect. The programme, which will provide valuable practical training for the students, includes the redesigning of the Great Hall, the completion of the Main Building, a new Students' Union, Staff Flats, a Library, and additional Science accommodation.

The wisdom of embarking on this development has been amply proved by the undergraduate response. For the first year we have nearly fifty students taking the course, and these are drawn from as far afield as Malaya and China in addition to Hong Kong itself; and while there is no doubt that the glamour of a new profession and the opportunities it presents is a great attraction, there is no reason to believe that the number entering the School in the next year or two will be greatly reduced.

In the later years of the course, the history and art of Chinese architectural design will be incorporated in the curriculum and we may look forward

with confidence to the development of a School which will contribute something really worth while to its parent profession.

OBITUARY

The death is announced in Edinburgh of Mr. E. J. Macrae, F.R.I.B.A., City Architect of Edinburgh until 1946, aged 69. He joined the staff of Edinburgh Corporation in 1908. During his period of office with the Corporation he was responsible for the designing and erection of all new buildings for the Corporation. The most notable new buildings for which he was responsible were: the City Chambers extension, Heriot-Watt College extension and Portobello Power Station.

He will no doubt best be remembered for his research work in connection with the Royal Mile. In 1945 his report on the Royal Mile listed all the buildings of note both from the historical and archaeological aspects. The report included recommendations for their retention and made suggestions as to how they might be used once they had been preserved.

1947 saw the publication of a further report entitled "The Heritage of Greater Edinburgh," which dealt with buildings worthy of preservation outwith the Royal Mile.

The death occurred on January 7 of John Thomas Blackwell, L.R.I.B.A., of Kettering, aged 87.

The death occurred on January 16, of Joseph Mathison, F.R.I.B.A., of Strawberry Hill.

COMING EVENTS

The Housing Centre

● January 30, at 6 p.m. "Housing and Planning Problems in Slough."
Speaker: P. W. Macfarlane.

Architectural Association

● January 31, at 8 p.m. "Research and Development in Public Offices."
Speakers: S. A. W. Johnson-Marshall and R. H. Matthew.

Town Planning Institute

● February 1, at 6 p.m. At Caxton Hall, Caxton Street, Westminster, S.W.1. "Costs of Town Development." Speaker: A. Limon.

Institute of Registered Architects

● February 2. At the "Horse Shoe," Tottenham Court Road. Annual Branch Dinner. London and Home Counties Branch.

Exhibition

January 31-February 23. Exhibition of Photographs by Members of the Architectural Association.

The A.B.S. Lecture at the R.I.B.A. on "Floor Finishes" originally fixed for February 13, has been postponed until February 27.

EXHIBITION

The Exhibition Panels and the model of the Glen Affric National Park which were displayed at the International Housing and Town Planning Congress in Amsterdam, are now on view at the Housing Centre, where they will remain until January 27. Exhibition hours, 9.30-5.30 Monday to Friday, 12 noon Saturday.

CORRESPONDENCE

The Gothic World

To the Editor of A. & B.N.

Sir,—In his generous review of my book, *The Gothic World*, Mr. Bryan Little uses one phrase liable to give rise to a serious misconception: "Not all Mediaevalists would be as strong a partisan as Mr. Harvey against the two great factors in mediaeval life, Romanesque and the work of the monks and schoolmen."

It is precisely the distinction and even opposition between Romanesque and Gothic that I have tried to make clear; "mediaeval" may be used as a chronological convenience, covering both; but it must not be used as a synonym for either. I am not "against" Romanesque; I suggest that it is a mistake to regard Gothic as a steady and evolutionary outgrowth from it. The essential spirits of the two cultures are utterly different.

What I do oppose is indeed the tendency to squeeze ideas into the strait-jackets of mutually exclusive "partisan" ideologies. My views are not "against" the monks or their works; it is a fact that monasticism was essentially a vital part of the defence mechanism of the Dark Ages, and another fact that it was closely integrated with Romanesque art. Outgrown, monasticism had a progressively lessening effect throughout the Gothic period.

Again, one cannot historically be "against" the Schoolmen; the greatness of the best minds of the thirteenth century and the diligence of their search for truth must impress all but the irreconcilable materialist. Yet it seems clear that the very perfection of their arguments tended towards a merely static equilibrium and the placing of fetters upon that dynamic Gothic spirit which had lit the flame of true humanism in the opening years of the twelfth century. This is indeed the central problem and paradox of the Middle Ages. I have tried to show how the lay artist answered, or at least evaded, that problem. Evasion may be more productive than the clearest Yes or No.

I am, etc.,
JOHN H. HARVEY.

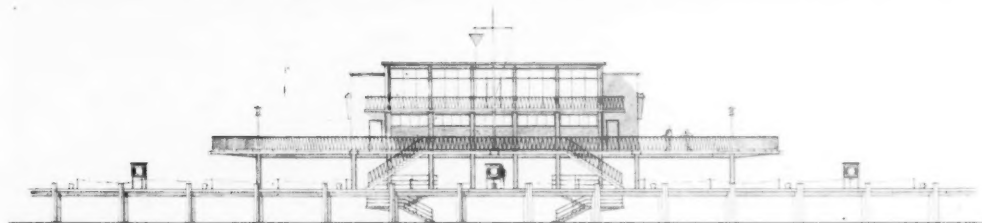
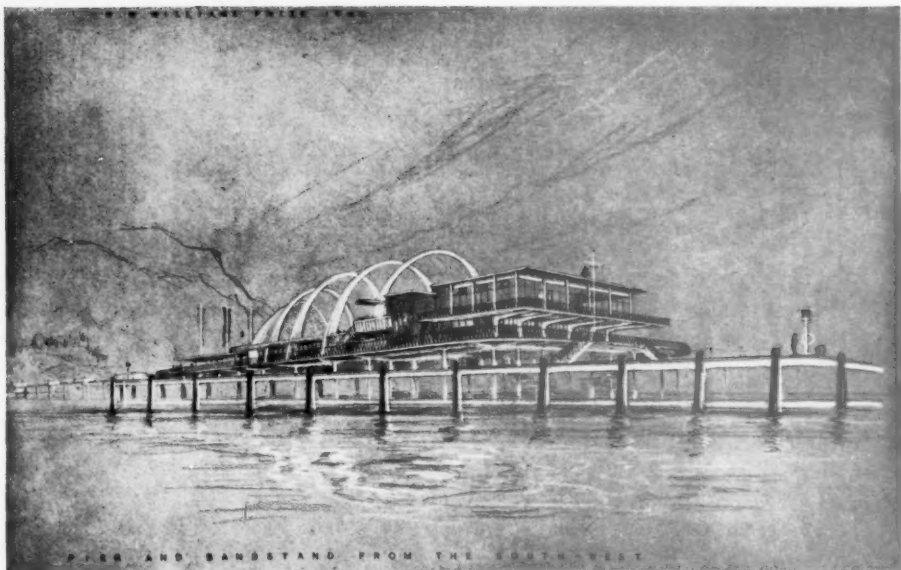
John Claudius Loudon

To the Editor of A. & B.N.

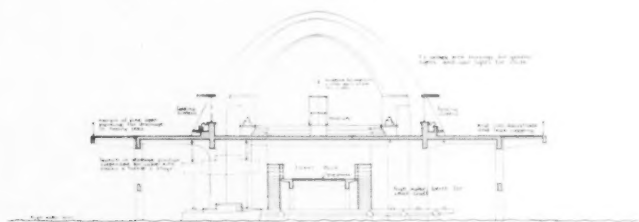
Sir,—I am writing a biography of John Claudius Loudon (1783-1843), the landscape gardener and author of many works on gardening and architecture. I should be glad to hear from any reader who has or knows of any letters written by Loudon or his wife, or who knows the present whereabouts of the journal that he kept from about 1800 until the end of his life, if it still exists.

I am, etc.,
JOHN GLOAG.

In the R.I.B.A. Intermediate Examination, held in London, Plymouth, Birmingham, Manchester, Leeds, Newcastle, Edinburgh and Belfast from November 3-9, 1950, 833 candidates took the exam, of whom 320 passed and 513 were relegated.



S O U T H E L E V A T I O N



C R O S S S E C T I O N

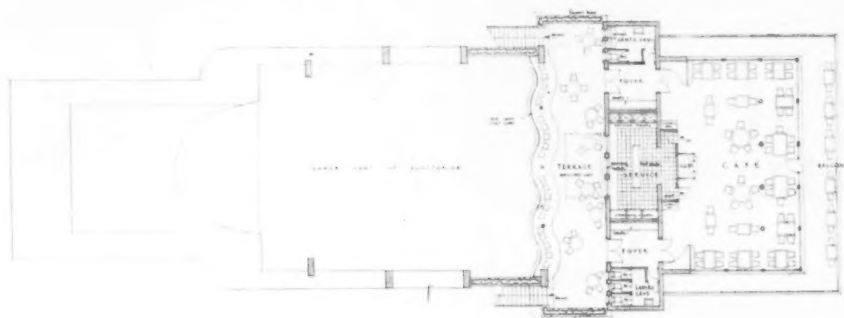
The drawings illustrated are those which won the H. W. Williams Prize, 1950, of £50, of the Liverpool Architectural Society (Inc.) and Allied Branches for an Architectural Design in Concrete. The subject was "A Pier and Bandstand" and the accommodation required was—1. A pier 520 feet long; 2. Provision for tying up, embarking and disembarking of passengers from a steamer 230 ft. long. 3. Bandstand for 25 musicians; small marine store; lavatory and cloaks and instrument store. 4. Open air accommodation for audience of 500, with removable or sliding protection from the wind and lavatory accommodation. 5. Cafe of 1,500 sq. ft., kitchen stores, etc. 6. Six stalls for sale of sweets, postcards, etc. 7. Open air seating for 300 in small groups. 8. Cash kiosks at entrance.

The winning design, H. W. Williams Prize, 1950

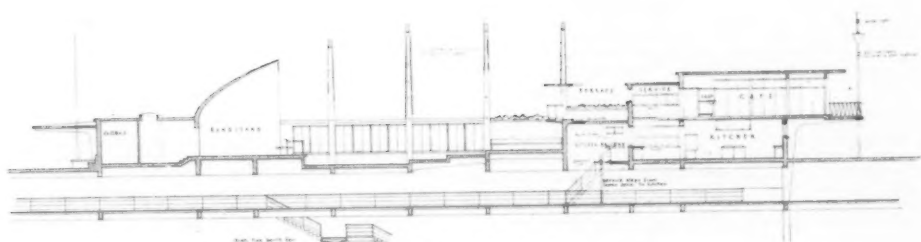
by David Jones, A.R.I.B.A.



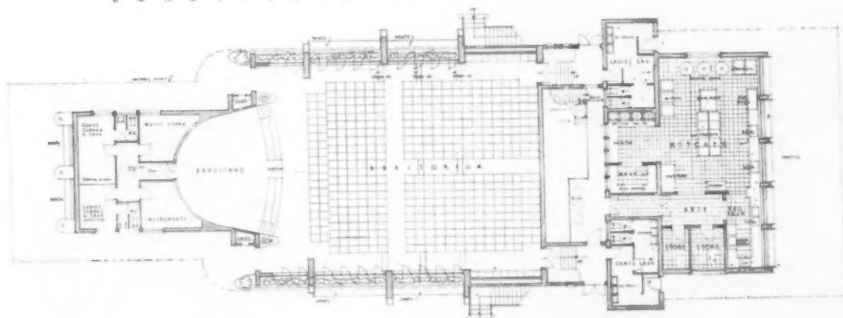
SIDE ELEVATION



PLAN OF CAFÉ DECK



LONGITUDINAL SECTION

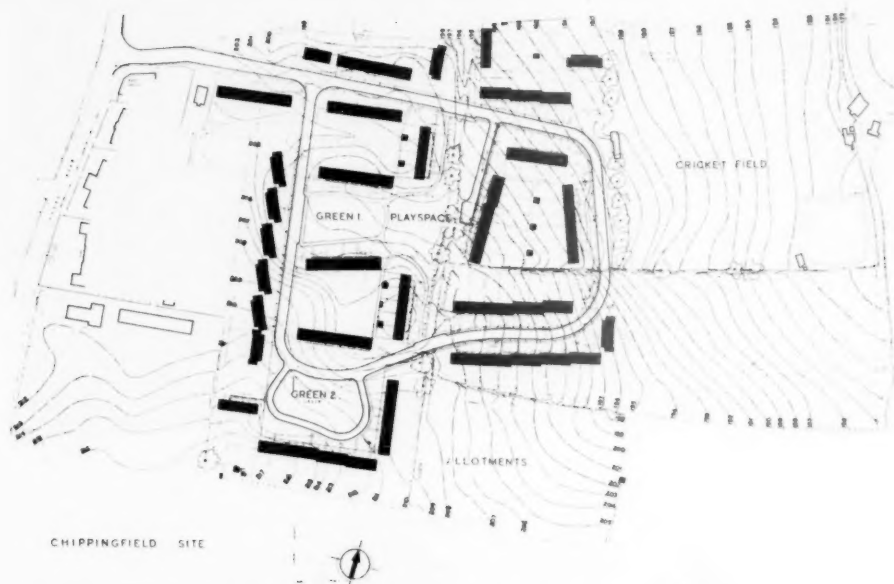


UPPER DECK PLAN

The winning design, H. W. Williams Prize
By David Jones, A.R.I.B.A.

CHIPPINGFIELD HOUSING SCHEME

Harlow New Town



THIS housing site which was the first to be developed in the New Town and comprises 98 houses was completed in August this year. The site is in Old Harlow itself and is situated to the east of A.11 and on the south side of the village, having a cricket field and hockey pitch on the east boundary and open undulating country to the south.

An original green lane bounded by hedges and a few trees running north and south through the centre of the site has been retained and a landscape plan prepared by Miss Sylvia Crowe, Landscape Consultant, has been carried out to complete the development. Flowering shrubs and trees have been planted to screen back gardens, to act as a link between





the stepped semi-detached blocks and planting on the higher ground to provide a background to the houses. Other trees planted on the open greens will complete the composition of house groups. The unfenced open fronts to the houses are grassed, giving a clean and orderly appearance from approach roads. The children's play space adjoining Green 1 has a mound which has also been grassed and the area is provided with play equipment.

The Layout

The present scheme was planned with only one access road from the A.11, just north of the Post Office, but it is intended eventually to develop the south-west corner of the site when a further connection will be made to the A.11, which will join the road running round the periphery of the site at Green 2 and so complete the circulation.

Generally speaking, the houses have been grouped around green which are in pleasant contrast to the houses in the south-east corner which face on to the road and give it a more urban character. This street picture seen from Green 2 is most pleasing (see photograph on p. 110).

To complete the development of the present site a scheme comprising twenty additional houses on the north side of the main entrance road is at present being carried out.

House Types

There are four different types of houses on the site as shown in the schedule below, and of the 98 tenants, 60 are building workers, 28 are members of the Corporation staff and 7 are research workers employed by the British Hydro-mechanics Research Association, for whom the first industrial building is now nearing completion. The other 3 are taken allocations to other officials.

The three bedroom terrace type has two plan variations, one with a dining kitchen and one with a dining recess off the living room. No outbuildings are provided, the store, fuel store and ground floor w.c. being built into the block. The back or service entrance is through this store from a lobby off the front elevation. This lobby contains a screened space for a refuse bin.

The two bedroom terrace type again has a dining kitchen with table top cupboards dividing the kitchen from the dining space.

Construction

External walls and party walls are 11" cavity and internal partitions of 4½" brick and 2½" breeze block. Metal door frames are used internally and glass wool insulating quilting is laid on the first floor ceiling joists. Roofs are covered with double interlocking pantiles laid on roofing felt.

Finishes

Externally. There are artificial stone dressings to the entrance doors of the terraced blocks, precast cills to windows generally and precast surrounds to picture windows. Entrance doorways to the semi-detached houses have zinc covered wood canopies painted white and lemon yellow. Steel windows and doors are painted white throughout, but wood entrance doors are in a variety of colours comprising Wedgwood blue, pompeian red, lemon yellow, purple brown and lead colour. Tubular steel supports to the 2 Bedroom terrace entrances are painted signal red. Blocks faced in cream buff mild stocks have dark brown pantiles and blocks faced in multi-surrey stocks have dark red pantiles. Certain blocks both terraced and semi-detached are rendered and finished with either white, silvery grey or pink waterproof cement paint.

Internally. Walls, joinery and kitchen fittings generally are finished cream with the exception of the bathroom walls which are blue. Doors are either silvery grey, lead colour or light stone colour alternating from house to house. The ground floors throughout with the exception of Stores are covered with patent floor tiles laid in mastic. Fireplaces, varying in design in each house type, have hearths and surrounds of fine gritted Portland Stone, with tiled infilling.

Services

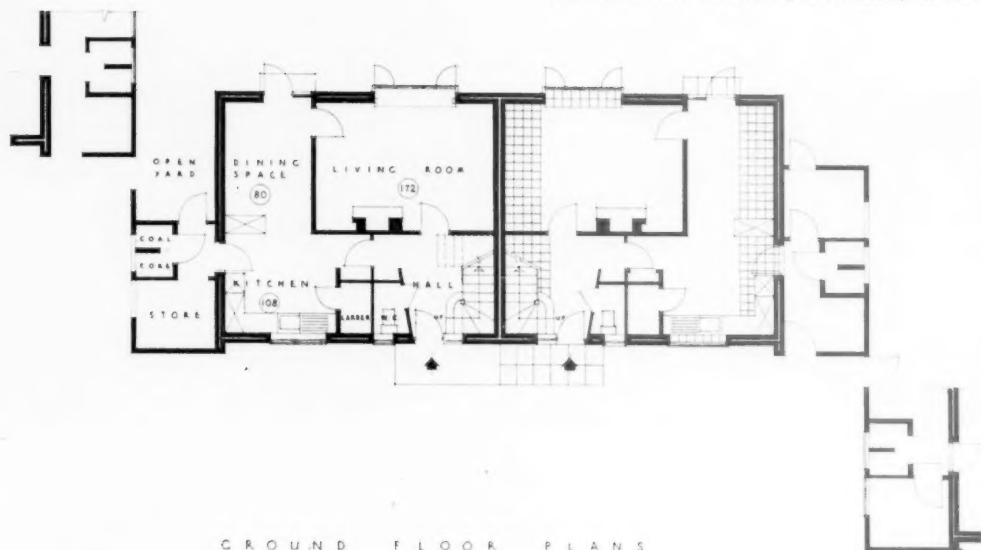
In the 3 Bedroom terrace houses the living rooms have gas-ignited all-night burning convection grates conveying warm air to Bedrooms 1 and 3 and an independent boiler in the kitchen supplies hot water. In the semi-detached and 2 Bedroom type houses are all-night burning grates with gas ignition and a back boiler providing hot water and also serving ground floor radiators. All hot water cylinders are fitted with a grid type immersion heater.

Statistics

	No.	Net area excluding outbuildings. 930 sq. ft.
3 Bedroom Semi-detached	14	
3 Bedroom terrace—		
(a) Dining kitchen	51	965 " "
(b) Working kitchen	15	965 " "
2 Bedroom terrace	18	760 " "
Area of Site	11.3 acres.	
Area of Children's Play Space	.31 "	
Area of Housing Greens	.52 "	
No. of Houses	98	
Density	8.6 per acre.	
Habitable Rooms per acre	40.4	

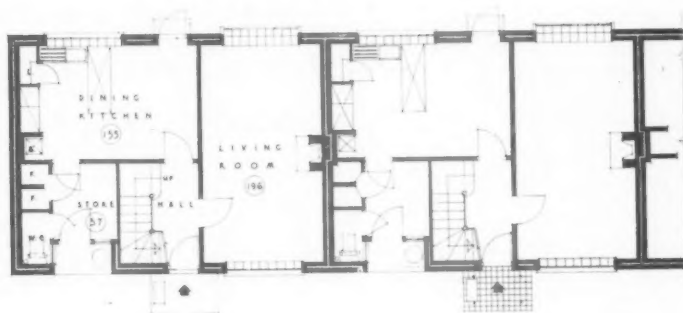
Responsible Architects

The Scheme was designed by a Design Unit in the Architect Planner's Department.



PLANS OF 3-BEDROOM SEMI-DETACHED HOUSES





GROUND FLOOR PLAN



WORKING KITCHEN TYPE

3-BEDROOM TERRACE HOUSE

CHIPPINGFIELD SITE HARLOW

CONTRACTORS: GEE, WALKER & SLATER, LTD.

SUB-CONTRACTORS AND SUPPLIERS:

Electricians: J. H. Plant Ltd.

Bricks: H. J. Greenham (1929) Ltd. and Eastwoods Sales Ltd.

Tiles: Marley Tile Co. Ltd.

Floors—Acotile: Armstrong Cork Co. Ltd.

Firebricks: Standard Range & Foundry Co. Ltd. (Eagle & Marathon).

Fireplace Surrounds: Bratt Colbran Ltd.

Ideal Boilers: John Bolding & Co. Ltd.

Precast Stone: Girlings Ferro-Concrete Co. Ltd.

Sanitary Fittings: Stitsons Sanitary Fittings Ltd.

Traps (Sinks, Bath and Lavatory Basins): B. Finch & Co. Ltd.

Ironwork (Grilles): Builders' Iron & Zinc Work Ltd.

Cylinder Jackets—"Ecto": B. Finch & Co. Ltd.

Kitchen Fittings: Gee, Walker & Slater (Derby) Ltd.

Ironmongery: Nettlefold & Moser Ltd.

Metal Windows: Williams & Williams Ltd.

Metal Door Frames: Sommerfeld Ltd.

Paint: International Paint & Compositions Co. Ltd.

Plastering: Humphries & Bailey Ltd.

Glazing: Faulkner Green & Co. Ltd.

Wall Tiling: A. H. Herbert & Co. Ltd.

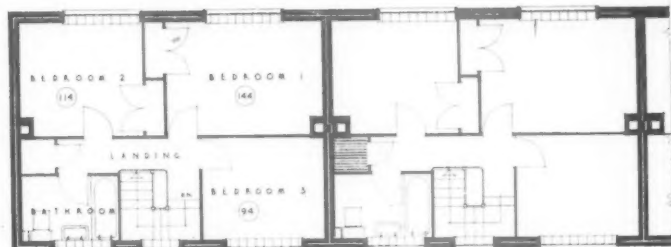
Fencing: Durafencing Ltd.

Precast Concrete: Malcolm MacCleod Ltd.

Fibreglass Quilting: B. Finch & Co. Ltd.

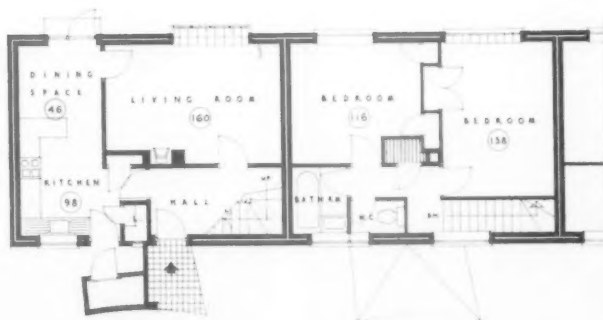
Street Lighting: Eastern Electricity Board.

Tarmacadam: Chittenden and Simmons & Co. Ltd.



FIRST FLOOR PLAN

3-BEDROOM TERRACE HOUSE



GROUND FLOOR FIRST FLOOR

2-BEDROOM TERRACE HOUSE

POINTS FROM PAPERS

ARCHITECTURAL

DRAUGHTSMANSHIP OF THE PAST

Extracts from a paper read on January 9 by H. S. GOODHART-RENDEL, PP.R.I.B.A. at the R.I.B.A. The Lecture was illustrated by slides, some of which are reproduced.

THE name of this lecture has been called *Architectural Draughtsmanship of the Past*. What its true name would be, and what the lecture itself might be called, and what, in fact, it has been, I shall leave you to decide when you have heard it.

One thing with which it is not concerned at all is the drawing of buildings that is done with an intention purely pictorial. I conceive architectural draughtsmanship to be the work done in his proper capacity by an architectural draughtsman, whether he be a pictorial artist or not. The proper capacity of an architectural draughtsman embraces the making of drawings of two kinds, those primarily meant to convey the architect's design, and those primarily meant to explain the methods proper for its execution.

Linear perspective, therefore, is the method by means of which a design in architecture can be most intelligibly represented to persons not trained in the mysteries of the art, and is that most readily intelligible even by initiates. As with other precious things its value is implied in the extent of its abuse. Having unrivalled powers of truth-telling, it can also magnificently lie. It is the honest architect's most candid and inconvenient friend: it is the dishonest architect's most artful and convenient confederate.

Of the nature of architectural draughtsmanship in the ages of Antiquity I believe I am right in saying that we have no information whatever. Concerning that in the Middle Ages we have a precious document in the sketch-book of Wilars de Honnecourt, and a good many scraps of tributary evidence in remains found, some quite recently, of workmen's diagrams drawn upon planks that have been used afterwards for other purposes. Wilars seems to have filled his sketchbook for his own eye alone, it is an excellent model of the *aide-memoire* a zealous architect will make of things seen upon his travels. From it we can infer what other evidence supports—that the mediaeval draughtsman was no purist in his method, lapsing from the rigour of elevation into comfortably lawless perspective whenever such a lapse would make his point or tickle his fancy. I see no reason for supposing that he provided the abbot or prince who employed him with any presentation of his projects much more elaborate than the sketches he made for his own ends. I think it more probable that after much preliminary consultation and reference to what had lately been built elsewhere he was trusted to follow the general instructions given to him, in his own way.

Since it would be impossible, except in a discourse of intolerable duration, to survey all the ground my title properly covers, I shall say no more this evening about sketches: having men-

tioned those of Wilars de Honnecourt only because little else than they have come down to us from their period. Most of my time I shall spend in studying with you that kind of architectural draughtsmanship which I hold to be most important to the welfare of architecture, the draughtsmanship that shows the public what to expect in what is not yet built, and what to look for in it when it comes into being.

This kind of draughtsmanship has nearly slipped into the past altogether, and I should be tempted to despair of what I believe to be its most necessary recovery if I did not remember that the past in which it flourished was not a long one. What has sprung up suddenly before may therefore spring up suddenly again. Under the aristocratic domination of architecture in the eighteenth century, as under the bureaucratic domination of it to-day, the public was regarded as a patient to be dosed with what was good for him, and it was preferable that when it opened its mouth it should shut its eyes. The designs made by an architect of the eighteenth century, whether submitted to individual patrons or given to the world in books of engravings, were consequently presented in a manner informative only to those who understood the architectural conventions of the time. They could judge (rightly or wrongly, of course) whether a portico were well proportioned, whether an attic storey were too heavy or a basement too mean, but to the majority of people into the background of whose lives the buildings would enter, one design as then drawn or engraved must have looked very much like any other. All, whether shown in elevation or perspective, would be outlined by ruler and compass, every opening, whether of door or of window being darkened by an unbroken wash or hatching. Of pictorial effect there would be little more than in the chaste and unexciting illustrations of the books of Euclid.

What a gulf there is between a drawing of this kind and the glorious water-colour with which Charles Robert Cockerell sought to recommend the project he submitted in the competition for the design of the new Royal Exchange! And yet the gulf is not a great one in time. The close of the Napoleonic wars and the magical effects of the waving of Nash's wand over London—was it those that were the prime causes of the sudden revolution in architectural patronage that dethroned the noble dilettante and put the ordinary citizen in his place? I do not know. I do know, however, that between the death of George III and the accession of Queen Victoria, the pleasures of architecture, to which for over two centuries admission had been difficult, opened to the public, which rushed into them with much eagerness. Cockerell's drawing

needs no decoding by an expert, it shares the riches of his mind openly with all the world. Most of the illustrations which accompany these remarks have been created with this intention of universal intelligibility. An architect, like a painter or a composer, has had an idea, which he has wished to present before others. He may or may not have had the manual skill to make this presentation himself. In its default he has borrowed the hand of a draughtsman, chosen sometimes, I am afraid, for his known skill in improving the ideas of his employers, but more often, let us hope, for his capacity for their loyal transmission.

I know that a great many people nowadays would contend that an architect's ideas are without interest until they have been proved by embodiment in actual buildings. All that this ridiculous contention denotes is that those who make it are interested in buildings and are not interested in ideas, indeed are probably impervious to them. The proper use of the aesthetic power of architecture is little less of a science than the proper use of the constructional power of engineering, and no engineer outside Bedlam would deny interest to theoretic projects that may not yet have been put into effect. The enormous predominance of mere news in architectural journalism to-day—and in the category "mere news" (usually untruthful news) I include practically all illustration of buildings by photography, is a sad index to the apathy with which the exercise of imagination has come to be regarded by the common run of architects. Fortunately students still have an appetite for unrealized projects, not only of their own but also at least those of Mr. Lloyd Wright. I am convinced that this interest architects who have lost it must recapture. Good architects must be students all their lives.

To the best of my belief, all except three of the designs I am showing as illustrations, were afterwards realized materially, but that fact has not governed my choice of them. I have chosen them to illustrate the illustration—popular illustration for the most part—of the architectural conceptions of a happy period during which architectural conceptions were in themselves news. Such illustrations cannot be confined to exhibitions, the public that visits exhibitions is normally a small one. They have also to be distributed by means of books, periodicals and journals, and consequently had before the days of photographic reproduction to be engraved or lithographed.

Photographic reproduction of brushwork was still out of the question, the half-tone block was as yet unthought of, and even in drawings purely linear the camera was always certain to coarsen fine lines and blot over-close hatching

into a smudge. Much that architectural journals wished to publish, therefore, still had to be redrawn, and in the *Building News* was redrawn most efficiently by the then editor, Maurice Adams. The specimen of his work that I now show you is not an example of popular illustration (in which his touch was less happy), but a drawing intended to show architects not necessarily what its subject *looked* like, but what it *was* like, philosophically and in essence.

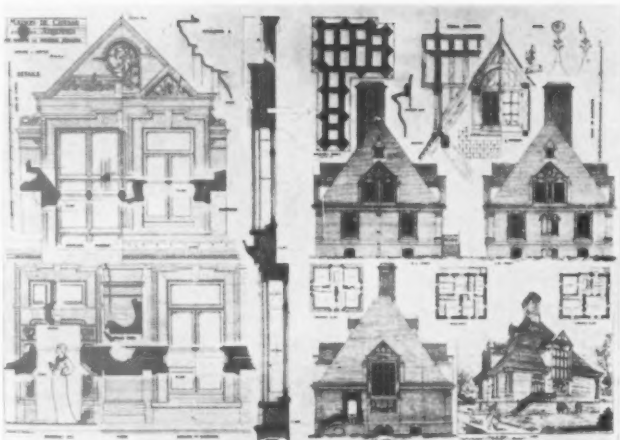
In the early days of photo-lithography, drawing in pen and ink still usually retained the name of "etching," and, although such drawing was done with a pen (I wonder if one can still buy the "etching pens" that survived even in my youth) and not with a needle, was not unlike dry point etching in its conventions. Frederick Deshon, the wonder-boy of his age in this art as applied to architecture, set many a difficult problem to the photo-lithographer, but I think you will admit that in the photo-lithograph from which my next slide is taken both artist and executant come off with honours. Deshon here was drawing a design of his own, and drawing with love. It seems to me that the accord between the sentiment of the design and that of its presentation is perfect.

It is almost a matter of course that the same accord should be apparent in my next illustration, that of a building highly characteristic of its author and delineator, George Edmund Street. I have no fear for the eventual fame of Street as the great vitalizer of English nineteenth century architecture, but I confess that I cannot agree with the extent of the claims that are customarily made for his draughtsmanship.

Yet there is, I think, an indication of latent power in every drawing of Street's which is lacking in the routine perspectives that issued so numerous from the office of his great pupil, Richard Norman Shaw.

I think it is tenable that the first artists of any kind to develop a really new technique proper for photo-lithographic reproduction were architectural draughtsmen, but not architectural draughtsmen belonging to the schools from whose work my illustrations have so far been taken. Although observant no doubt of the terrible mess the new process was apt to make of hatching and cross-hatching, they never doubted that these means were necessary for producing shade and tone. They made their hatching as open as possible and hoped for the best. Draughtsmen there were, however, in this great age of pattern designing, the age of William Morris, of Edward Godwin, of Bruce Talbert, who frequently had to make intelligible black-and-white drawings of decoration so intricate that in many parts of them hatched shadows would have obscured exactly what it was necessary to show. Experiment taught them that shade and tone could often be more effectually produced by varying degrees of emphasis in the actual drawing of a pattern than by crossing that pattern with confusing strokes in the conventional method of "shading."

The most brilliant specimen of this ideally photo-lithographic draughtsmanship that I could show you would probably be one of the designs for an



MAURICE B. ADAMS. *Maison de Chasse in the Ardennes.* (*Building News*, 1876.)

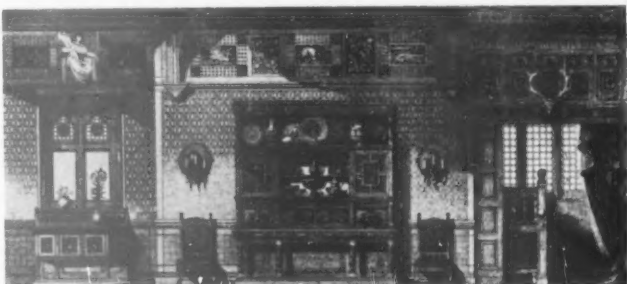
imaginary drawing or dining room, about the size of the Drury Lane stage, with which Walter Hensman, an associate of Bruce Talbert's, used regularly to adorn the walls of the Royal Academy exhibition. Hensman's notions of decoration, however, might arouse in you such dismay that you would overlook the cleverness of his draughtsmanship. I have therefore chosen, instead, a page from one of Bruce Talbert's own books, which shows a room, excellent of its kind, drawn in a manner that illustrates sufficiently the characteristics I have been describing. This in a sense is a decorative drawing, itself it is a pattern made up of patterns. It has an affinity in nature with Talbert's very beautiful wallpapers and brocades. It also conveys, in a way anybody could understand, the design of the room that it represents. That it is admirably adapted to photo-lithographic reproduction, my slide, which is taken from a photo-lithographed plate, clearly testifies. The date of the book from which it is taken is 1876.

I have shown you no drawing of Pugin's, having been obliged, when contracting this lecture to a reasonable length, to eliminate the over-familiar. We must remember him here, however,

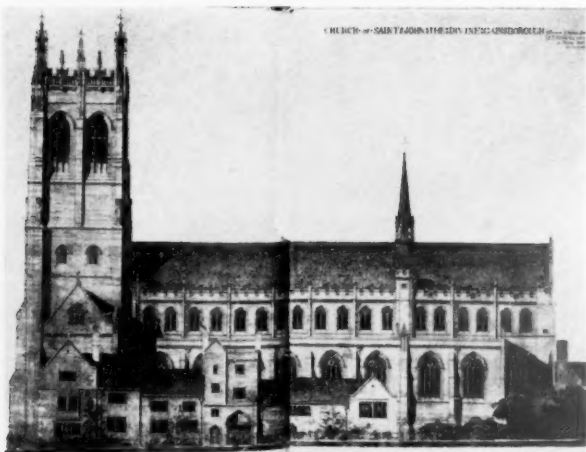


FREDERICK DESHON. *Design for a Missionary Chapel.* (*Building News*, 1875)

as the brilliant draughtsman whose peculiar style degenerated among his disciples into what William Burges used to speak of with angry contempt as "flick and dot."



BRUCE TALBERT. *Side Elevation of Dining Room.* 1876.



MICKLETHWAITE or SOMERS CLARKE. St. John the Divine, Gainsborough.
(Building News, 1888.)



C. MACKINTOSH. Martyrs Public School, Glasgow. (Building News, 1896.)

Those whose opinion I respected when I was young, and respect still—perhaps also with a difference—used to tell me that the king of all picturesque architectural draughtsmen, past, present, or probable, was H. W. Brewer. Certainly his powers were extraordinary. Year after year *The Builder* would issue, as a Christmas present to its readers, some great fantasy of his, a panorama of mediaeval Paris, for example—or a recreation of a Hanseatic port with its every activity in full swing—or—but let me show you one of them, I think one of the best. The title of this drawing is *Deserted*. It shows a dump of the disused apparatus of mediaeval civilisation, an abandoned church, decaying houses, a grass grown quay, everything with its former pride falling, falling, falling from it into dust. It shows also architectural beauty of a noble kind, proud beauty now humbled and become the unresisting food of decay.

Brewer had begun to draw for *The Builder* when that journal was still illustrated only by the woodcut, his

work suffering as much as would be expected in its translation into that medium. By the time at which the plate *Deserted* was published, photolithography was far enough developed to do it justice, and by that time also the half-tone block had arrived, making possible the cheap reproduction of drawings done in colour or in monochrome wash. These possibilities were first turned to advantage by *The Architect*, other more conservative journals continuing for a while to have brush drawings redrawn in line for reproduction in the older way.

Brewer's rendered drawing shall now give place upon the screen to another not dissimilar, published four years later when the new process of reproduction had been adopted by *The Building News*. I do not know who made this drawing. I should think very probably one of the two excellent architects to whom is jointly due the design it represents. Its interest as a drawing centres in the rarity, the unfortunate rarity, of the type to which it belongs. I think that if more architects had con-

fronted themselves—but why should I put what I am saying into the past? I think that if more architects were to confront themselves with their designs stated with this graphic exactness, they might be enabled to act in time to save themselves from many regrets, and the world from much annoyance.

The line perspectives of Norman Shaw's office were not pictorial drawings but architectural drawings with pictorial accompaniments. They were drawings in which rectilinear outlines were ruled in as neatly as they would have been in an elevation, only the texture of materials and the trimmings, mineral, vegetable, and atmospheric, provided by landscape and sky, being drawn freehand. This compromise was the deliberate choice of artists who could draw buildings freehand against anybody but did not think that an office perspective presented a suitable occasion for doing so. I was taught in my youth, and so, I think, must have been taught all the later draughtsmen whose work we are now going to examine, that the compromise was wrong. If anything was to be pictorial in a perspective drawing, all must be pictorial. The merest suspicion of a ruled line in a drawing otherwise free-hand damned it utterly.

In the perspective drawings of Alfred Waterhouse despite their striking effects in light and colour, their emphatic accessories, their aerial distances and cloud-packed skies, the buildings it is their *raison d'être* to show are all present and correct in their smallest details, ready for any architectural inspection to which they may be subjected. In them there is no dissembling of the ruled pencil line whatever, although being a pencil line beneath washes of colour, it is naturally not so prominent as it would be uncovered, and in ink. Nevertheless Waterhouse, who frequently exhibited landscape drawings completely in the pictorial convention of his time, did not regard that convention as appropriate to the serious business of expressing architecturally an architectural design. It would be hard to prove that he was wrong.

As soon as photographic reproduction of black and white drawing had been brought to the point at which pretty well anything that could be drawn could be cheaply printed an enormous amount of talent was poured into it by artists of all countries, changing the whole scope and character of the art.

The dazzle technique seems to have come to England from America where it had blown over from France and Italy. As applied to architecture I think that perhaps its earliest practitioner was Martin Rico, but the name with which it was associated above all others in the minds of most people was that of Joseph Pennell.

The specimen I show you appeared in *The Building News* of 1888 and must have introduced most of the readers of that journal for the first time to the young perspective artist who was afterwards to attain such phenomenal popularity, C. E. Mallows. I am afraid that I think that all that was respectable in the work of Rico and Pennell was absent in his, and that his wonderful alroitness would have been better employed in almost any direc-



HERBERT RAILTON. Houses in Harrogate. (Building News, 1900.)

tion than that in which he turned it. However, the dazzle technique dazzled English architects very completely, every senior draughtsman practising its tricks with the hope of some day becoming another Mallows.

No, not every senior draughtsman; some, I think, would sooner have become supernumerary Herbert Railtons. Railton, a brighter dazzler, and, incidentally, a much better artist than Mallows, found his chief employment in the book illustration for which the style in which he practised had originally been concocted. But when he did descend into the architectural arena to make a perspective drawing, the effect was terrific. There stands in Harrogate a row of houses, the actual appearance of which can best be described in the words used by the Victorian lady-killer of a disappointing female face—"extraordinarily ordinary." Please look now at how it appeared in Railton's Academy drawing of it! This is a pencil drawing, and its dazzle is therefore less blinding than that which its author customarily produced when he drew in ink. It also, we must admit, is an extremely clever bit of work of its kind.

I think that in nothing were the 'nineties naughtier than in the irresponsibility of their fashions in architectural draughtsmanship. Dazzle technique was the most popular among these, being the easiest to imitate after a sort, although not, perhaps, to imitate successfully. A vogue was enjoyed, also, by a manner founded upon the conventions of early Renaissance engraving, a manner in which surfaces of all materials were given a steely sheen, in which flowers and bushes were drawn like patterns for wallpaper, and in which skies were filled with pillowcases caught up on telegraph wires. My old friend and mentor, Beresford Pite, a magnificent draughtsman but a capricious one, had set this sort of thing going with the design for a clubhouse that won him the Soane Medallion in 1882. The drawings of this design came under my ban upon the over-familiar, and I shall let the manner be represented—perhaps not quite so typically, by one of the perspective views from the set of drawings submitted

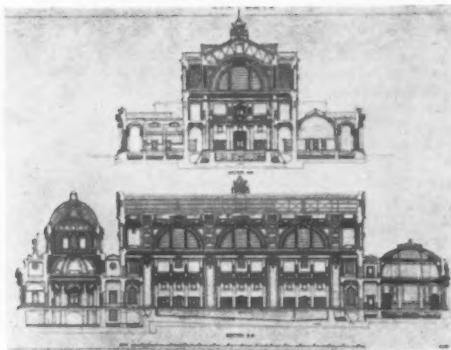
unsuccessfully by H. Wilson in the competition for Victoria Cathedral. Of Wilson's perspective drawings in another medium, that of gouache—or something like it—I exclude any example, because I am talking about architectural draughtsmanship, and in them the architecture is almost entirely invisible. They suggest to me, however, that had Wilson made his vocation scene-painting he might have become (and in this I speak seriously) one of the greatest scene-painters in history.

Book illustration was the artistic field in which, during the 'nineties, the taste of the advance guard in English Art was most characteristically displayed: Beardsley, Ricketts, Paul Woodroffe, Lawrence Housman, and many others, all being busy with experiments in various decorative conventions. In Glasgow, where 'ninetyish-naughtiness was found to be a welcome alleviation of the rigours and monotony of commercial life, the drawings of Miss Jessie King summarized most of the peculiarities of the time in a mannerism that was found very acceptable. This mannerism, or something very much like it, was applied to the architectural perspective by Charles Mackintosh and others, and,

since its imitation required little skill and gave an undeniably *fin-de-siècle* look to drawings of almost any quality, spread like wildfire through the evening schools and the columns of *The Studio*. In the example of Mackintosh's work that I now bring before you, the peculiar child with the skipping-rope skipped afterwards into quite a number of drawings by other people, where she usually found very much the vegetation she had left in her last place.

Of the three last examples of architectural draughtsmanship that we have been examining, only the first of them, that by Mallows, indicated what was to become normal in the practice of a succeeding age. In so becoming it was rationalized in some degree, and deprived of its more dangerous powers of deception. Later drawings by Mallows and his imitators did not seriously misrepresent their subjects; and the anachronism of Wilson, and the puerility of Mackintosh were soon sloughed off by a craft whose *raison d'être*, when all is said and done, is to inform the public rather than to gratify the vanity of the draughtsman. I fear, however, that the attack of pictorial fever, never quite recovered from by the craft, has had lasting results in the mistrust with which all perspective drawings are now regarded by many people who ought to feel better assured than, apparently they do of their own powers to detect fraud.

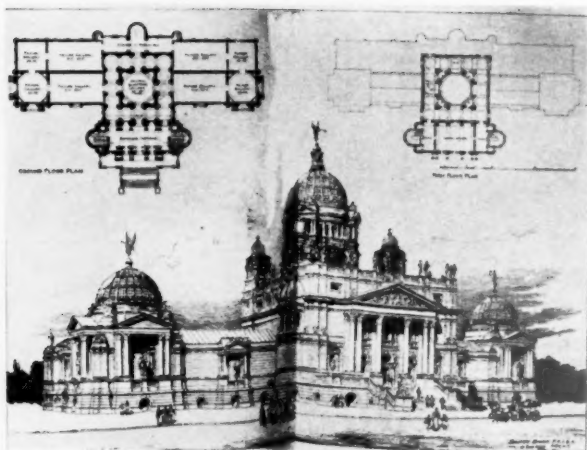
In the year 1902 the Soane Medallion was won by J. B. Fulton with a set of remarkable drawings for a swimming bath, drawings of a kind of which every participant in open competitions stood most in need. They were clear, rich, easily reproducible and in their mannerism wonderfully modish. For some years afterwards (and, as a matter of fact, for a few years before) most competitions of any importance were strongly flavoured with Fulton, either authentic or derived. Let me show you some of his prize drawings. Nobody could say that it is not both clear and easily reproducible, the firm lines and the omission of minutiae ensure that. I do not think that its richness is any the more in doubt, the thick lining of the ornament producing an effect most



J. B. FULTON. Design for a Swimming Bath, Sections AA and BB. (The Builder, 1902.)



H. WILSON. Design for Victoria Cathedral, B.C. (The Builder, 1893.)

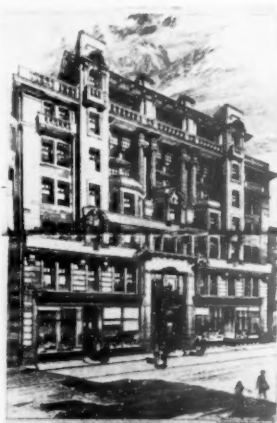
C. W. ENGLISH. Gallery of British Art. (*Building News*, 1893.)

massively fruity. And its modishness—could anything express better the especial architectural characteristics of the reign of King Edward the Seventh?

All the Fulton drawings in perspective that I have seen are in outline, in thick free-hand outline with a heavy tangle of these outlines blackening the paper wherever sculpture is to be delineated. They therefore have tone values entirely different from those that could exist in the building they represent, unless the sculpture in it were all to be painted nearly black. I remember when I was about 17 years old, trying passionately to wriggle thick lines about in the Fulton way; but one wore different-shaped collars and coats in those days, used different slang, and still occasionally rode in hansom cabs.

Let us now forget all about the Railtons, the Wilsons, the Mackintoshes, the Fultons, and turn our attention to the draughtsmen who in their progress seldom swerved from the high road of a great tradition. I say "seldom" rather than never because one of the most gifted among them, Beresford Pite, had, as I have already hinted, his youthful vagaries. For legitimate bravura in black-and-white drawing no renown has been better deserved than that of Edwin Rickards. Throughout all the period we have been traversing, Ernest George was building and drawing without pause, recording each of his works in pictorial renderings that expressed perfectly but with great economy of means, the fundamental architectural idea behind each design. His personal technique of line and wash in sepia looks the easiest in the world and yet has baffled all its would-be imitators.

Once their architectural practices were established, the services as draughtsman of Pite, Rickards, George and Nicholson naturally were no longer available to other people; but in those artists who made architectural draughtsmanship their sole vocation there were names scarcely less notable. I do not think proper justice has yet been done to the memory of one who, in his day, was the best known of them all, C. W. English. If accurate representation of normal appearances were the sole aim of a

A. MACGIBBON. Waterloo Chambers, Glasgow. (*Building News*, 1900.)

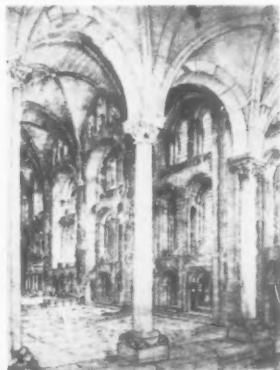
drawing in perspective, those made by English would be supreme. When his medium was ink wash, he could be relied upon to produce what seemed to be a better photograph than ever could exist of a building that so far had never existed at all. In line he produced prodigies of realism, also; as an example, I show you his representation of a top lighted picture gallery, full of people with black faces such as we see at the Royal Academy. If he was required not to commit the architect any further than was necessary in a preliminary design, he was no less fascinatingly skilful, as his sketch perspective of the Tate Gallery now will show you.

Sir Charles Nicholson, who was not greatly interested in drawings made by specialists of the work of other people, always made an exception in favour of those made by Alexander McGibbon. I absorbed from him this partiality, although I admit that I have seen a good many McGibbons that suggest that their popular author was overworked. Sir John Burnet, whose views I also

absorbed with a reverence that time has only increased, chose McGibbon to make many drawings for him, and it is with one of these that I shall introduce his work here. I see, myself, in the management of reflected light in the upper part of this drawing an artistry much greater than that in English's literal verisimilitude. I also remark, in the emphasis given to the horizontal lines that bind the exciting design together, a sympathy between draughtsman and architect that too often is wanting. McGibbon has not only drawn the design, he has seen the point of it, and emphasized it to the spectator.

I should not be surprised if in number the output of Raffles Davison in drawings exceeded that of any architectural draughtsman in history. He was an architectural enthusiast, always on the lookout for the works of young (and I am afraid often immature) men to encourage by publication in the paper *The British Architect* which was largely illustrated by his own hand. He published a design of mine when I was fifteen years old, so no wonder that I regard his memory with tenderness! He could draw extremely well, and often did. He also sometimes drew less well. He developed a convention that allowed him to draw quickly, sometimes with an admirable fluency only so to be obtained, but sometimes too quickly.

The words "of the past" in the title announced for this paper have given me a limit to its scope. I have taken them as signifying what has been the past always to me, what I have known of only as an historian. The period that I remember personally has many names that I think greater than those I have spoken, but to have included them would have lengthened our course, which without that has been breathless enough. I hope that some of you will travel over it again at your own pace, and will get more pleasure from the old draughtsmanship than I have been able to bring you in my too hasty survey. I hope also that when architecture again becomes pleasant to draw, many happy draughtsmen will arise to celebrate its restoration. What I hope for the photographic camera I shall keep to myself! For recording the faces of very important people and the scenes of accidents I admit that it need fear no rival. And I admit also that in "scenes of accidents" a great deal of architecture can be properly included.



C. A. NICHOLSON. Imaginary Drawing of a Church.

Information Digest

OFFICIAL PUBLICATIONS

- **B.R.S. Digest No. 23.** Issued by the Building Research Station, Garston, Watford, Herts.
- No. 23. Condensation Problems in Buildings.** Price 2d.

This digest deals with the difficult problem of condensation in buildings, it analyses the principles involved in condensation, and discusses surface condensation, interstitial condensation, and condensation on roofs. Methods of prevention are suggested and a number of diagrams show methods of reducing condensation by means of ventilation and insulation. A valuable little publication.

- **National Building Studies, Technical Paper No. 5. Investigations on Building Fires. Part III, Radiation from Building Fires,** by R. C. Bevan and C. T. Webster. Published by H.M.S.O. Price 1/-.

This report deals with the fundamental aspects of the spread of fire from one building to another by direct radiation. It is one of a series of Technical papers describing the results of investigations carried out by the Building Research Station on fire resistance and related problems. A full account of the origin of this series is given in the preface to the first two papers in the series which were published as National Building Studies, Technical Paper No. 4 (H.M.S.O. Price 9d.). The Report includes many charts, tables, and diagrams prepared as a result of experiments and investigations of actual fires, carried out by the B.R.S. Officers.

- **Draft British Standard Code of Practice. The Painting of Non-ferrous Metals.** Issued by the B.S.I., 24, 28 Victoria Street, S.W.1. Price 3/- post free.

This Draft Sub-Code which has been issued for comment by the Council for Codes of Practice, was prepared by a Committee convened by the R.I.B.A. It deals with the painting of non-ferrous metals in the forms in which they are most frequently used in buildings such as metal claddings, linings, pipes and cast or extruded sections and fittings. The Code which should be read in conjunction with Code 231, "Painting," gives recommendations relating to the preparation of the metal surfaces for painting, the most suitable types of primer, and the methods of applying the primer. The appendix includes notes on the cleaning and preparation of aluminium, magnesium copper, and their alloys prior to painting. The code is in draft form and is subject to amendment in the light of comments received, before final publication.

- **National Building Studies, Bulletin No. 11. "Floor finishes for houses, and other non-industrial buildings,"** by H. M. Llewellyn and F. C. Harper. Published by H.M.S.O. Price 1/- nett.

This Bulletin compiled by officers of the Building Research Station deals with the uses and properties of 20 different types of flooring suitable for building where only pedestrian traffic has to be considered. A useful statement is given of the properties required in a Non-Industrial floor finish, and each type of flooring is assessed separately in relation to these desired properties. This information is tabulated in the appendix, and together with the table of costs, availability and specification should be of considerable assistance in the selection of flooring materials.

- **The Council of Industrial Design 5th Annual Report for the year 1949-1950.** Published by H.M.S.O. Price 1/6d. nett.

The Introduction to this Report gives a brief summary of the year's work of the C.O.I.D. and of the progress made in stimulating public and industrial interest in standards of design. The various divisions of the Council are reviewed in detail including the Council's participation in the preparations for the 1951 Festival of Britain, where the Council's officers are rendering valuable service in preparing the 'Theme' for the various sections of the South Bank Exhibition, advising exhibition designers, and acting as a link between Industry and the Exhibition Organizers. The C.O.I.D. is also responsible for the preparation of the 1951 Stock List which will

be exhibited at the South Bank under the title of "Design Review." The Report is illustrated by a number of excellent photographs showing the type of exhibition for which the Council has been responsible, and also examples of well designed British goods taken from the 1951 Stock List.

- **Ministry of Works Advisory Leaflet No. 12. Metal Windows.** Published by H.M.S.O. Price 2d. (reduced prices for quantities).

This advisory leaflet describes the ways of fixing, pointing and glazing metal windows. Recommendations are made in simple language, and amplified by means of diagrams, in relation to the correct methods of storage of steel and aluminium windows, protection from rust, and other matters of importance which concern the building operative.

STEEL AND CONCRETE

- **Examples of Structural Steel Design to conform with the requirements of B.S.449: 1948, Part 2.** Published by the British Constructional Steelwork Association, Artillery House, Artillery Row, Westminster, S.W.1. Abbey 2424 Free.

This booklet was written for the B.C.S.A. by V. H. Lawton and deals with the design of the valley beams and stanchions in the two examples I and II illustrated in Part 3 (B.C.S.A. Publication No. 1, 1950).

- **The Reinforced Concrete Review, Vol. II, No. 3, July 1950.** Published by the Reinforced Concrete Association, 94, 98 Petty France, London, S.W.1. Price 2/6d.

The most interesting article to architects in this issue of the R.C. Review is the lecture given to the R.C.A. on February 15, 1950, by J. G. Wilson of the Cement and Concrete Association on "Colour and Texture in Concrete Surfaces." Mr. Wilson deals very competently with the various ways of producing a satisfactory finish to concrete surfaces. He discusses the use of precast facing slabs, precast concrete blocks and the treatment of exposed aggregates in concrete work. The lecture is illustrated by a number of photographs of completed buildings, and detail photographs of precast facing slabs, showing the different textures and patterns obtained by various treatment methods. Mr. Wilson's considerable research both in this country and abroad on this difficult problem of surface finish to concrete makes his lecture of considerable value to architects, and the discussion which follows raises many points of interest.

- **Physical Planning in the Netherlands.** Published by the Netherlands Government Information Office, The Hague. Price unstated.

An interesting survey of present day Physical planning in the Netherlands compiled by the Government Physical Planning Service, and the Information Department of the Ministry of Reconstruction and Housing. Well produced with diagrams, maps, and charts, the chart (Fig. 16) showing the relationship of the authorities concerned with the organization of planning, should be compared with organization of planning machinery in this country.

MATERIALS

- **The Mansion House Renovations 1948-50.** Published by Jensen & Nicholson Ltd., Jensen House, Stratford, E.15. Free.

This photographic brochure describes the redecoration of the London Mansion House for which Robbialac Paints were used both in 1931 and 1948-50. The booklet consists mainly of photographs of the most important rooms, with descriptions of the new colour schemes.

- **Building Topics, Vol. V, No. 1. October, 1950.** Published by Tretol Ltd., 12/14 North End Road, London, N.W.11. Speedwell 4621. Free.

Articles in this issue of Building Topics (The House Journal of Tretol Ltd.) of interest to architects include Designing with Asbestos Cement by H. W. Ashman and The Weather Protection of Flat Roofs and Parapets, by Frederick J. Bone.

- **Use of Zinc Pigments in Exterior Paints.** Issued by the Zinc Pigment Development Association, Lincoln House, Turl Street, Oxford. Free.

This booklet was originally published in 1947, and the new edition has a number of additions to the original text. The publication demonstrates the versatility of zinc pigments which are widely used by many paint manufacturers. The new information includes a report on the recent Z.P.D.A. outdoor tint-retention tests, a section on zinc chromate paints, and reference to Zinc Dust Paints.

- **Fixing Devices (20th Edition).** Issued by the Rawlplug Company Ltd., Cromwell Road, London, S.W.7. Free.

Over 4 million fixing devices leave the Rawlplug London factory every week in addition to tools and accessories. The Company claim that a device can be produced for every fixing need. This claim appears to be substantiated by the astonishing range of devices and tools illustrated in this brochure, which varies from the well-known Rawlplug to such ingenious devices as the spring toggles, gravity toggles, Rawlanchors and Rawlbolts. In these days of unit construction, light weight walling materials, and sheet material cladding for buildings the availability of suitable fixing methods is of great importance, and the contribution to this problem made by the Rawlplug Company is well illustrated in this 20th edition of their standard catalogue.

LIGHTING, HEATING AND SOUND

- **International Lighting Review.** Volume 1950, No. 4. Published by Stichting Prometheus, Amsterdam, P.O. Box 7048, Netherlands. Free.

This review from Holland is issued six times a year in English, French, German and Italian. Issue No. 4 contains a number of articles of interest to architects including "Daylight and Artificial Lighting, in a Diamond Drilling Shop," by I. R. L. C. Kalf, this describes in detail the natural and artificial lighting of Phillips' new diamond drilling shops in the Netherlands, because of the nature of the work carried out in the shops the building had to be free of vibration, dust and temperature changes. Good natural and artificial lighting was essential for precision work, but brightness contrast was highly undesirable. The article which is illustrated by excellent photographs and drawings, describes how these stringent conditions were fulfilled, and how these requirements influenced the shape and construction of the building. Other articles such as "Juggling with Light," the story of the chief electrician of the Rotterdam Municipal Theatre; "Lighting in the Textile Industry," and a description of the festive lighting in the Beira-Mar Park in Lisbon, on the occasion of the "Feira de Algas" are well presented with excellent photographs and diagrams. This is an extremely well produced trade Review, which should set an excellent example to producers of similar publications in other countries.

- **Gas for Large Scale Cooking. Commercial Uses of Gas, Series No. 1.** Issued by the Gas Council, 1 Grosvenor Place London, S.W.1. Price 1/3d.

There are now nearly 10,000 catering establishments in this country and this booklet describes the contribution made by the Gas Industry in providing efficient kitchen installations. The illustrations range from the kitchens in the Albert Hall, the Shakespeare Memorial Theatre, and the R.A.C., to restaurant, school and canteen kitchens. Information is given concerning the appliances needed for kitchens of various sizes, and the number of meals which can be served from them.

- **G.E.C. Sound Equipment.** Issued by the General Electric Co., Magnet House, Kingsway, W.C.2. Free.

The G.E.C. was one of the founder members of the British Broadcasting Company and one of the first organisations in this country to manufacture domestic radio receivers. The Company has, therefore, had a long and intimate connection with the development of sound reproduction. This booklet gives details of the G.E.C. consultative service and describes some of the sound installations carried out with their equipment. These range from Waterloo Station to Worcester Cathedral, and from Sports Stadia to Ships. The first condenser microphones for fundamental measurements of

sound were designed and made by G.E.C. Technicians and are now accepted as the recognized standards by the National Physical Laboratory and the Research Department for the British Post Office.

MISCELLANEOUS

- **The T. & C.P. Act.** Defects of the Act and the Remedies issued by the Royal Institution of Chartered Surveyors, 12 Great George Street, S.W.1. Price 1/-.

This booklet is the result of an investigation through the 17,000 members of the R.I.C.S. The three major defects in the Town and Country Planning Act (1947) according to the Institution are (1) An owner's incentive to sell his land for approved development is destroyed by the reduction of the value of the land to that of its "existing use." (2) There is a widespread uncertainty as to the amount of compensation an owner may expect for the loss of his freedom to develop land. (3) The charges levied on owners who do develop their land are excessive. There are other criticisms in relation to the slow working of the machinery of the Act, etc. Whilst the Institution does not endorse all the criticisms and categorically approve the purpose of the Act, it puts forward in this booklet proposals for amendment which in its view would make the Act less cumbersome, and a more attractive and speedier instrument.

- **The Housing Centre. 13th Report 1949-50.** Published by The Housing Centre, 13 Suffolk Street, Haymarket, S.W.1. Price unstated.

The valuable work of the Housing Centre is well known to architects and the annual Report for 1949-50 gives a brief review of the Centre activities such as Conferences, Tours, Exhibitions, Library and Bookshop, together with a membership list.

- **Church Design, by Alan G. Fudge.** Published by the Epworth Press, 25 35 City Road, London, E.C.1. Price 4/-.

This small book has been written by an architect as a handbook for the use of Church Building Committees when drawing up their programmes of requirements for new buildings, it will also be of use to architects when preparing sketch schemes for new church projects. The subject is dealt with under the following main headings: Architectural Approach—Planning for Worship—Planning for Age Groups—Planning for recreation—Planning against noise—Planning for Good Acoustics. The chapter on planning for worship deals primarily with nonconformist requirements, but a good deal of the data given is appropriate to churches of any denomination. The author makes a strong and welcome plea for the Community church and also for greater freedom for the architect engaged on any new church project. The appendix to the book is a review of the book "The Methodist Church Builds Again," by Benson Perkins and Albert Hearn (Epworth Press, 6s.) which rightly praises the general emphasis of that book on the need for a new spirit in Methodist Architecture in keeping with 20th century life, and also rightly disapproves of the illustrations in "The Methodist Church Builds Again," which Allan Fudge says "suggest the very character the authors have been at pains to discourage and are painfully reminiscent of 19th century nonconformist architecture." This little book can be warmly recommended to Church Building Committees and to architects interested in church design.

- **Spons (Builders) Price Book, 1950-51.** Published by E. & F. N. Spon Ltd., 22 Henrietta Street, W.C.2. Price 15/-.

Spons Price Book for 1950-51, the 76th edition of this useful book edited by the Quantity Surveyors, Davis, Bellfield & Everest, has been brought up to date in relation to prices and information. During the last two years this publication has grown to double its original size, and in view of present conditions more than double its previous usefulness. The information is set out clearly and concisely.

ALSO RECEIVED

Production and Marketing of Asphaltic Tile, by Robert F. Lanzillotti. Publishers: the Bureau of Economic and Business Research. The State College of Washington, Pullman, Washington, U.S.A. \$75.

CURRENT MARKET PRICES (LONDON)

(These prices apply to material purchased in the quantities named or otherwise as might be expected for a new building of medium size.)

AGGREGATES AND SAND

1½ inch—all in—ballast	16/4	Yard cube
1 inch do. do.	18/6	delivered
1 inch screened shingle	14/5	(in five yard loads or more)
1 inch do. do.	15/5	
1 inch granite chippings	55/-	
Sharp washed sand	16/9	
Pit sand	16/2	
Building sand	16/2	
Broken brick	17/6	
1½ inch shingle	13/7	
Cartage of muck	6/-	

CEMENTS, LIMES, PLASTERS, ETC.

London: Delivered centrally. Per ton.		
CEMENTS—Portland (6 ton loads) ..	69/-	
Do. (but 1 ton to 5 tons 19 cwt.) ..	74/-	Paper bags
Do.—Rapid hardening (6 ton loads) ..	75/-	charged
Do.—Do. (but in 1 ton to 5 tons 19 cwt.) ..	80/-	12/- per ton extra.
Do.—"Aquacrete" (but in 1 ton to 5 tons 19 cwt.) ..	105/6	
Do.—"417" or Polar (1 ton to 5 tons 19 cwt.) ..	96/6	Do. 12/- per ton extra.
Do.—White (1 ton lots) ..	237/-	Bags free.
Keenes Cement—pink—coarse (1 ton to 1 ton 19 cwt.) ..	166/9	do.
Do.—white—coarse (do.) ..	172/3	do.
LIME—	99/6	(1 ton loads) delivered.
Hydrated	99/6	(2/3 do.) do.
and	91/-	(4/5 do.) do.
Ground	90/-	(6 do.) do.

PLASTER—

	Price	unit	bags
Sirapite, coarse	120/3	per ton	included delivered
Do. finish	128/3	do.	do.
Hardwall	134/3	do.	do.
Plaster, pink coarse	117/-	do.	do.
Do. white do.	125/-	do.	do.
Lime and hair	72/6	per yard cube	do.
Plaster baseboard	1/11½	yard super (150 Yds.)	do.

FIRECLAY—

Stourbridge, loose (1 Ton lots) ..	126/6	Ton delivered
Fire cement	10/3	14 lbs.

BRICKS

BACKING BRICKS (In truck loads)—		
Flettons	92/-	per 1,000 delivered
Do. Keyed	94/-	do.
Do. bullnose	112/-	do.
Blue wirecuts	373/-	do.
Sandlime or Common White	90/-	do.
Southwater engineering (No. 1) ..	253/6	do.
Firebricks—2½ inch	50/-	per 100 delivered
Do. —3 inch	58/6	do.

STOCK BRICKS—

Mild stocks	150/-	per 1,000 at Works
Second do.	175/-	do.
First do.	185/-	do.
Add for delivery—approx. 40/- per 1,000 in lorry loads.		

FACINGS—

Rustics	117/-	per 1,000 delivered
White	136/-	do.
Blue pressed, 2½ in.	414/6	do.
Do. bullnose	427/6	do.
Reds (Multi sand faced)	195/6	do.
White glazed stretchers	1082/-	do.
Do. headers	1069/-	do.
Do. bullnose	1347/-	do.
Do. double stretchers	1440/-	do.
Do. double headers	1307/-	do.
Breeze fixing bricks	18/3	per 100
Fire tiles and lumps	25/-	foot cube
Wall ties—8"×½"×½", black	50/-	per cwt.
Do. but galvanized	68/6	do.
Cement mortar (1:3) hand-made ..	67/-	yard cube

BRICKLAYERS' SUNDRIES—

AIR BRICKS			
9×3 in.	9×6 in.	9×9 in.	12×9 in.
Iron	each 1/6	2/5	3/8
Galvanized do.	do. 2/7	4/5	6/8
Terra Cotta	do. 1/1	2/2	5/3
Chimney pots, Terra Cotta	1 ft. 5/9	2 ft. 10/1	3 ft. 22/8
			4 ft. 39/2

PARTITIONS—

Per super yard.		Blocks keyed for plastering.	
		60 super	25 super
		yards	yards
		load.	load.
Solid clinker blocks, 18"×9"×2" thick	2/9	3/3	4/-
Do. but 2½" thick	3/3	3/9	4/7
Do. but 3" thick	3/9	4/3	5/7
Hollow clay blocks, 12"×9"×2" thick	3/3	4/3	4/8
Do. but 2½" thick	3/6	4/8	5/2
Do. but 3" thick	4/3	5/5	6/2
Half blocks, extra on above rates	2/-	2/6	2/6
Smooth in lieu of keyed face, extra per side, on above rates	2d.	3d.	3d.

SINKS—

Fireclay white glazed in and out—standard quality—			
24"×18"	30"×18"	30"×20"	36"×20"
London pattern, 6" deep	46/-	58/-	61/6
Belfast, do., 10" do.	61/-	92/6	122/6
Cantilever brackets 4/6 per pair.			147/-

GAS FLUE BLOCKS—

Single Flues. Double Flues		
Racking blocks	4/11	9/1 per set of three
Straight do.	2/2	3/8 each
Cover do.	3/2	5/8 do.
Raking do. 45 deg.	4/8	7/7 do.
Do. do. 60 deg.	3/6	5/3 do.
Offset block	5/10	8/7 do.
Closer do.	2/2	3/8 do.
Do. flashing do.	1/10	2/10 do.
Straight flashing do.	1/10	2/10 do.
Terminal and cap	11/10	15/7 per set
Middle do.	11/7	14/11 do.
End do.	11/10	15/6 do.
Corbel block	7/10	15/1 each

DRAINAGE GOODS

STANDARD LIST

SALT GLAZED SANITARY PIPES AND FITTINGS—			
Best Quality	4 in.	6 in.	9 in.
Pipes (2 ft. and under)	1/8	2/6	4/6 each
Bends and knuckles	2/6	3/9	6/9 do.
Single junctions and saddles	3/4	5/-	9/- do.
Double collars	3/4	5/-	9/- do.
Ordinary tapers	3/4	5/-	9/- do.
Manhole interceptors	17/6	22/6	37/6 do.
Gullies (ordinary)	6/3	6/10½	11/3 do.
Extra on cost of last for horizontal inlets			
Do. vertical inlets	1/6	1/6	1/6 do.
Do. black iron grids	2/3	2/3	2/3 do.
Do. galvanized do.	7½d.	1/0½	1/8 do.
Do. stoneware do.	1/0½	2/1	4/4½ do.
Do.	7½d.	1/0½	1/8 do.

These pipes are subject to the following adjustments according to quality and quantity: Best Quality in 2 ton lots—plus 35%. Ditto 100 pieces—plus 55%. Ditto less than 100 pieces—plus 65%. British Standard are 7½% more cost than Best as above detailed. Tested pipes are 25% more cost respectively.

IRON DRAINAGE GOODS—

Controlled maximum prices.			
Each		4 in.	6 in.
Cast iron pipes, 9 feet long	50/-	74/9	
Do. 6 feet do.	36/8	58/10	
Do. 4 feet do.	29/4	47/1	
Do. 2 feet do.	18/1	28/4	
Short hend	11/8	24/2	
Junction	20/5	41/11	

CURRENT MARKET PRICES (Continued)

DRAINAGE GOODS—Continued

GULLEY PARTS—		4 in.	6 in.
Traps, high level, invert.	..	20/6	51/3 each
Inlet, bellmouth pattern ..	..	13/-	21/- do.
Do. with one vertical branch ..	..	19/3	33/6 do.
Do. with two do.	..	45/-	81/- do.
Sealed cover, with felt washer ..	..	9/-	15/6 do.

RAINWATER SHOES—		4 in.	6 in.
With vertical inlet and rebated top ..	..	23/6	61/6 each
Extension piece, 6 ins. high ..	..	14/3	14/3 do.
Flat loose coated grating ..	..	2/6	2/6 do.
Loose solid coated cover ..	..	4/5	4/5 do.

INSPECTION CHAMBERS—		4 in.	6 in.
Without branch ..	..	56/-	74/- each
Do., with one branch ..	..	72/-	102/- do.
Do., with two branches ..	..	110/-	152/- do.
Do., with three branches ..	..	136/-	195/- do.
Do., with four branches ..	..	183/-	259/- do.

BROWN GLAZED CHANNELS—

Based on standard list plus 65% (less than 100 pieces)

	4 in.	6 in.	9 in.
Half-round main channel (2 ft. long) ..	2/0	3/1	5/7
Extra for stop ends ..	2/0	3/1	5/7
Extra for outlets ..	2/5	2/5	2/5
Channel bends with splayed ends ..	6/2	9/3	16/8
Three-quarter section do. ..	8/3	12/4	22/3

MANHOLE COVERS—

Black

24x18 in. Light foot traffic ..	..	22/3 each
Do. Strong do. ..	..	36/3 do.
Do. Light car traffic ..	..	71/9 do.
Do. Road traffic ..	..	113/- do.

SUNDRIES—

Black Galvanized

Manhole steps ..	4/-	6/11 each
4 in. Mica valve fresh air inlets (L.C.C.) ..	..	14/3 do.
Plumber's hemp ..	..	6/- per lb.
Gaskin, caulking ..	..	1/7 do.
Canvas backed hair felt, 4 in. wide ..	..	6d. per ft. run

ROOFING MATERIALS

WELSH SLATES (delivered)—		5,000 lots at per 1,000	500 lots at per 100	Under 100 at per doz.
Size in inches	..			
22x11 ..	..	1470/-	190/-	25/-
20x10 ..	..	1224/-	159/-	21/-
18x10 ..	..	953/-	123/-	16/3
16x8 ..	..	655/-	85/-	11/3
14x9 ..	..	561/-	73/-	9/6
14x4 1/2 ..	..	266/-	35/-	4/6

TILES (Broseley and Staffordshire)—

5,000 lots
Per 1,000

10 1/2" x 6 1/2" Machine made ..	..	211/3	30/3
Do., hand made, sand faced ..	..	244/7	34/9
Hips, valleys and angles	27/-	per dozen

Plain concrete tiles	Per 1,000 156/9	Per 100 19/-
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QUARRY TILES (delivered)— 8" x 6" x 6" 1 1/2" x 8" x 8"

Plain	242/9	870/9 per 1,000
Sheeting asbestos corrugated, 3 in. pitch	4/11 1/2	per yard super
Do. 6 in. do. ..	..	5/7	do.
Sheeting iron galvanized corrugated ..	..	52/-	per cwt.
3 1/2" Drive screws (galvanized) ..	..	0/-	gross

ASBESTOS RAINWATER GOODS—

	2 1/2 in.	3 in.	4 in.	6 in.
Pipe in 6 ft. lengths ..	3/-	3/7	4/11	10/2 yd. lineal
Do. in 4 ft. or 3 ft. do. ..	4/6	5/5	7/4	15/3 each
Shoes ..	1/9 1/2	2/2	3/1 1/2	7/8 do.
Branches ..	3/5	4/1	5/8	14/1 do.
Bends ..	2/3	2/9	4/-	8/10 do.
Swannecks—6 in. projection 2/10	3/3	4/9	10/5	do.
Pipe clips ..	1/4	1/4	2/4	2/8 do.

ASBESTOS O.G. GUTTERS AND FITTINGS—

	4 in.	5 in.	6 in.	8 in.
In 6 ft lengths ..	2/10	3/7	4/5	5/8 yd. lineal
In 4 ft. or 3 ft. do. ..	4/2	5/6	6/7	8/6 each
Angles and nozzles ..	2/2	3/-	4/7	do.
Stop ends ..	6 1/2 d.	9d.	10d.	1/2 do.
Drop ends ..	1/11	2/2	2/11	2/4 do.
Union clips ..	1/1	1/5 1/2	1/9 1/2	2/2 1/2 do.

STONE

	Per foot cube
Whitbed Portland, building quality, at Nine Elms Station	6/4 1/2
Do. Monumental quality ..	6/7 1/2
Bath Stone, at Paddington or South Lambeth Stations	5/7

TIMBER (Changing in April)

In quantities less than £20 in value, add 20%.

Softwood.—Sawn.—Random lengths.

2" x 9" of good quality. Per standard. Per foot cube.

Douglas fir (June, 1949)	£102 1/2	12/5 1/2
Swedish—redwood	£80	9/8 1/2

Plain edge unsorted flooring, 2 in. 1 in. 1 1/2 in. 1 3/4 in.

7 in. wide ..	58/3	76/-	95/-	114/-
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See: The Imported Softwood Prices Order, 1949—No. 1079 for instructions, further details of sizes, qualities and prices.

SUNDRIES—

Felt, roofing and inodorous (best) ..	..	2/2	yard super
Do., inodorous, 2nd quality and sarking ..	..	1/7	do.
Do., sheathing, black ..	..	1/2	do.
Glue ..	1/8 per lb.	..	..
Nails: brads (2 1/2") ..	47/2 cwt.	Cut clasps (2 1/2")	48/9 per cwt.
Panel pins ..	9d. per lb.	Sash line, cotton (No. 8)	177/3 per gross
Wall boards 3/4" Insulating ..	..	3/4 d.	per sq. ft.
Insulating, 1/2" ..	..	4 1/2 d.	per sq. ft.
Hardboard: 1/2" ..	6d.	and 3/4" ..	8d. per sq. ft.
Slag wool ..	..	..	3/- foot cube
Wood screws: 1 1/2" long—No. 8 size—per gross	Steel 2/7	..	..
Japanned round head 3/4. Brass 8/5. Brass round head 10/10	..	..	..

HARDWOOD—

Per foot super.

Prime	1/2 in.	3/4 in.	1 in.	2 in.
Mahogany (African) ..	11d.	1/3 1/4	1/6	3/2
Do. (Honduras) ..	1/5 1/2	2/0 1/2	2/3 1/2	5/1
Oak (American), white—northern	..	..	..	..
—plain, kiln dried ..	1/0 1/2	1/5 1/2	1/8	3/9
Do.—Quartered ..	1/1 1/2	1/7	1/10	4/4
Do.—European—waney edge	11d.	1/3 1/2	1/5	2/11
Teak—Burma and Siam 1st class	2/4	3/3	3/9	7/5
Walnut (African) ..	11d.	1/3 1/2	1/6	3/2

QUALITY, STANDARD SOFTWOOD DOORS.

1 1/2 ins., 4 Panels, horizontal, moulded both sides, in quantities of from 12 to 49.

2' 9" x 6' 6" at 55/6 each.	2 ins. do., but top panel open, with beads.	2' 9" x 6' 6" at 68/- each.	2 ins. 3 panel, do. as last.
2' 6" x 6' 6" at 52/3 each.	2' 9" x 6' 6" at 62/9 each.	2' 6" x 6' 6" at 64/3 each.	2 ins., 2 panel ditto as last.
2' 3" x 6' 6" at 49/9 each.	2' 6" x 6' 6" at 60/3 each.	2' 0" x 6' 6" at 47/3 each.	2' 6" x 6' 6" at 54/- each.

CURRENT MARKET PRICES (Continued)

IRONMONGERY

Cast iron Butts, .. per pair	2in.	3in.	4in.	5in.	6in.	
Hinges, spring, single action regulating, jappaned, .. each	10d.	1/4	2/1	3/8	5/5	
Do. but double action spring only each		6/-	8/3	11/-	13/9	
Do. blank only each		11/-	15/-	20/9	25/3	
		5/-	8/6	11/9	13/6	
Toe hinges (jappaned) .. per pair	12in.	18in.	24in.	30in.	36in.	
Do. but stronger per pair	1/5	2/8				
Hook and Ride hinges .. per pair	1/11	3/8	5/8	-	-	
		-	10/3	12/6	19/3	
BOLTS—each—	3in.	4in.	6in.	8in.	10in.	12in.
Cabinet, barrel straight or necked	1/2	1/6	1/11			
Square spring, with brass knob	1/4	1/10	3/4			
Towel bolts	1/4	1/10	2/6	3/1	3/8	
Barrel bolts	2/1	3/1	4/1	5/2	6/3	
Add to Tower or Barrel bolts if necked	4d.	4d.	5d.	5d.	5d.	
LOCKS—each—						
Rim lock, 2 lever, wrot case	9/7	Brass furniture			4/2	
		or Bakelite do.			2/8	
Mortice lock, 2 lever, bushed	12/1	Bakelite finger plates			1/8	
		Brass furniture			4/6	
		or Bakelite do.			2/10	
Cylinder latches, jappaned case	12/9					
Brass sash fastener .. ..		.. ..	.. ..	each	3/8	
Casement fasteners (malleable) .. ..		.. ..	.. ..	do.	1/6	
Do. stays (do.) .. ..		.. ..	.. ..	do.	2/-	
Axle pullies (brass face, iron wheel) .. ..		.. ..	.. ..	each	2/1	
Do. as last but with brass wheel .. ..		.. ..	.. ..	each	3/11	
Sash line, No. 8 Anchor yellow label		..	per yard		10d.	

METAL GOODS

Notes: 1. **Grade:** A36 steel.
2. **Finish:** Galvanized.
3. **Weight:** 10.0 lb per ton.
4. **Dimensions:** 5" x 4 1/4" to 16" x 6" inclusive (except 9" x 7", 10" x 8", 12" x 8" and 14" x 8") (over one ton) \$23.10.0 per ton.

Extruded 9" x 7 1/8" section	(over one ton)	\$23.10 per ton	
4" x 4", 5" x 3", 10" x 8", 12" x 8", 14" x 8" and		5/-	do.
16" x 8" to 20" x 7 1/8" sections inclusive		10/-	do.
22" x 7" section		15/-	do.
4" x 2 1/2", 4" x 3", and 24" x 7 1/8" sections		20/-	do.
Steel angles and tees	\$24.0.0 and \$25.0.0		do.
Steel bars (average ex mills)	\$25.0.0		do.

Mild steel rods $\frac{1}{2}$ " diameter and upwards, cut to lengths within the usual margin and bent to normal schedules for reinforcement	29/3 per cwt.
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Extras per ton—			
$\frac{1}{8}$ in. and $\frac{1}{2}$ in. diameter in size	15/- per to.
.. do. do. do.	15/- do.
$\frac{3}{8}$ in. do. do. do.	22/6 do.
$\frac{1}{2}$ in. do. do. do. ..	..	..	30/- do.
$\frac{3}{4}$ in. do. do. do. ..	..	..	60/- do.
$\frac{7}{8}$ in. do. do. do. ..	..	..	90/- do.

Extras for length—

5 ft. to 3 ft.	..	..	..	..	7/6	do.
3 ft. to 2 ft.	..	..	..	..	15/-	do.
2 ft.	..	..	..	..	22/6	do.
40 ft. to 45 ft.	..	..	..	..	15/-	do.
45 ft. to 50 ft.	..	..	..	..	22/6	do.
Bales and cuts					70/-	per ton

Trench casing, including trays 11 in. deep and 22

Trench covering, including trays 1½ in. deep and re-					
bated frames, 9 in. wide .. .. .	..	..	..	..	8/9 foot run
Do., but 12 in. wide .. .. .	..	..	..	..	12/- do.
Do., but 14 in. wide .. .. .	..	..	..	..	13/- do.
Do., but 18 in. wide .. .. .	..	..	..	..	14/6 do.

METAL WINDOWS AND DOORS—

Steel casement doors and frames for glazing	7/6	foot super
Do. folding type	7/-	do.
Fireproof steel framed doors	28/-	do.
Strong room doors	60/-	do.
Strong room gates	25/-	do.
Steel casement windows and frames part opening	5/9	do.

CHAIN LINK FENCING—

In 25 yards lineal rolls inclusive of line wire.

2 in. mesh.	36	42	48	60	72
10½ Wire gauge	74/-	86/-	98/-	123/-	147/-
12½ do.	52/-	61/-	69/-	87/-	104/-
14½ do.	37/-	43/2	49/4	61/8	74/-

DOUBLE SOOT DOORS AND FRAMES—

Fitted with brass turnbuckle and cast key ..	9in. x 9in. 13/6	12in. x 9in. 17/3	14in. x 12in. 27/6
---	---------------------	----------------------	-----------------------

SLIDING DOORS, GATES AND PARTITIONS—

Factory sliding doors in two leaves containing about 100 square feet with mild steel angle frames covered with 24 gauge corrugated galvanized sheeting and including hanging tubular track and gear complete	8/-	foot super
Factory entrance gates with mild steel frames clad with 2 in. mesh chain link complete	6/-	'o.
Steel partitioning, glazed (rough cast) and stove enamelled	10/-	do.

STEEL ROOF LIGHTS—

Lanterns with vertical sides, and hipped roof, glazed with $\frac{1}{2}$ in. cast glass and lead flashed (180 ft. super or over, all surfaces measured)	10/6 foot super
Skylights of similar construction (180ft. super or over, all surfaces measured)	9/9 do.

DOMESTIC BOILERS

For hot water or heating, for use with solid fuel, including base plates.

Gal. per hour from 40 to 140 deg.	Heating only direct radiation sq. feet	Black finish	Vitreous enamel finish	Vitreous enamel side jackets
		£ s. d.	£ s. d.	£ s. d.
20	20	5 12 3	6 16 3	5. 0
20	55	7 11 0	9 19 9	11 3
25	70	8 16 0	11 4 6	13 6
40	110	13 18 6	16 17 0	16 0
49	120	11 2 6	—	—
66	170	13 16 6	—	—

Radiators for heating—3/- per sq. foot heating surface.

GAS, WATER AND STEAM TUBES

(From Standard List.)

Internal Diameter—	in. &							
	in.	1/2	3/4	1	1 1/4	1 1/2	1 3/4	2 in.
Tubes	2	2 1/4	3	3 1/4	4 1/4	5	5 1/4	6 1/4
Bends	8d	9d	10d	11d	1 1/4	1 1/2	1 3/4	2
Elbows, square do.	10d	11d	1 1/4	1 1/2	1 3/4	2	2 1/4	2 3/4
Elbows, round do.	11d	1 1/4	1 1/2	1 3/4	2	2 1/4	2 3/4	3
Tees	do.	1 1/4	1 1/2	1 3/4	2	2 1/4	2 3/4	3
Crosses	do.	2 1/4	2 3/4	3	3 1/4	4	4 1/4	5
Backnuts	do.	3	3 1/4	3 1/2	4	4 1/4	4 1/2	5
Sockets	do.	3d	4d	5d	6d	8d	10d	12d
Sockets, diminished do.	4d	5d	6d	7d	8d	1 1/4	1 1/2	1 3/4

DISCOUNTS OFF ABOVE

In random lengths and in quantity.

TUBE—

Class A (light)	-38½% Black	-11½% Galvanized
Class B (heavier)	-32½% Do.	-6½% do.
Class C (heaviest)	-22½% Do.	+7½% do.

FITTINGS—

Light weight	-12½%	Black	+ 7%	Galvanized
Heavy do.	-5%	Do.	+12%	do.

RAINWATER GOODS (Painted or Unpainted)

Rain water pipes, 6 ft. lengths,	2 in.	2½ in.	3 in.	3½ in.	4 in.	5 in.
per yard	2/8	2/9½	3/1½	3/6½	4/3	5/4½
Shoes	each	1/18	1/3	1/3	2/3	4/10
Bends	each	1/3½	6/10	2/3	2/8½	5/14
Heads	each	1/10½	2/3	2/6	3/10	6/10
Offsets, ¼ in. projection	each	1/7½	2/-	2/3	2/6½	3/5 7/8
Do. 9 in. do. ..	each	2/1½	2/4½	2/9½	3/6	4/2½ 6/7½
Single junction ..	each	1/1½	2/3	2/9½	3/3	3/11½ 6/8
Half round gutters, 6 ft. lengths,	per yard	-	-	1/3½	1/5	1/5½ 1/10
Angles and nozzles ..	each	-	-	1/10½	1/2½	1/3 1/7½
Ends	each	-	-	3/8d.	3/8d.	3/8d.
O.G. gutters, 6 ft. lengths per yd.	each	-	-	1/8½	1/10½	5/8
Angles and nozzles ..	each	-	-	1/5½	1/5½	1/6 2/-
Stop ends	each	-	-	4½d.	5½d.	6½d. 9d.

The above prices plus 75 % added to foot of invoice.

CURRENT MARKET PRICES (Continued)

PLASTERING MATERIALS

Sand, lime, cements and various plasters are previously included under those heads—			
Metal lathing (8" x 24G.)	..	..	2/5 sq. yard
Plaster baseboard, 3" (150 yds.)	..	..	1/11½ do.
Plaster wallboard, 3" (do.)	..	..	2/4½ do.
Scrim, 2" cotton (100 yds. roll)	..	..	5/11 per roll
Scrim, 3½" jute (do.)	..	..	8/10 do.
Lath nails, galvanized	..	..	1/- lb.
Cow hair	..	..	84/6 per cwt.
White glazed tiles (6" x 6" x 1/4")	..	..	14/10 sq. yard
Do. rounded on one edge	..	..	17/11 do.
Do. on two adjoining edges	..	..	21/10 do.

PLUMBER'S GOODS

Per cwt.	3½ lb. lead and upwards	Lead pipes and coil	Lead soil pipes	Allowance for old lead
Delivered in quantities of 5 Cwts. to 1 Ton	157/3	158/6	161/6	100/-

IRON SOIL AND WASTE PIPE—

	2 in.	2½ in.	3 in.	3½ in.	4 in.
L.C.C. coated (M) per yard	3/1½	3/4	3/8½	4/2½	4/9½
Bends	each 2/3½	2/6½	2/9½	3/6	3/11½
Swannecks, 4½" projection, do.	2/9½	3/3	4/5½	5/1½	5/11½
Do. 9 in. do.	do. 3/9	4/2½	5/1½	5/11½	7/-
Junctions	do. 2/9½	3/6	4/2½	4/10½	5/7½
Round access doors	do. 5/3	5/3	5/3	5/7½	5/7½

The above prices plus 75% added to foot of invoice.

GALVANIZED CISTERNS—

(Less than four)	100	200	300	gallons
Angle iron at 14 gauge	121/-	212/6	296/-	
top and 12 do.	145/-	233/6	317/6	
corner plates ½" plate	170/6	265/6	366/-	
HOT WATER TANKS—	25	30	50	gallons
Riveted, 12 gauge	93/-	102/-	141/6	
with ring ½" plate	102/-	110/6	157/-	
CYLINDERS	25	37	48	gallons
Riveted and 12 gauge	125/8	139/8	159/5	
handhole ½" plate	138/9	155/11	178/6	

PLUMBERS' BRASSWORK—

(Good Quality)	1 in.	1½ in.	2 in.	2½ in.	3 in.	4 in.
Ball valve, equilibrium, M.W.B. pattern, with union, copper ball	21/1	28/3	39/1	66/9	101/-	166/-
Do., Croydon, M.O.H. pattern, low pressure	10/3	15/1	25/-	44/6	54/9	91/-
Bib valve, polished brass, crutch top, S.D. for iron	7/3	8/11	-	-	-	-
Do., chromium plated, easy clean, spoke top, lettered S.I.	9/6	14/-	-	-	-	-
Elbow back plate for tap: in brass	7/-	11/6	-	-	-	-
chromium plated	8/-	12/6	-	-	-	-
Do. brass with union for lead	9/-	13/-	-	-	-	-
Do., but chromium plated	12/-	14/-	-	-	-	-
Stop valve, brass, screw down crutch top, for iron	6/3	8/9	13/3	27/-	40/-	69/-
Do. but unions for lead	9/-	12/3	19/-	36/-	53/-	92/-
Gun metal gate valves	12/3	16/-	19/6	25/6	33/9	47/3
Water outlet, washer, plug, chain stay and union	-	-	-	6/6	7/3	13/6
Boiler screw, brass, double nuts	2/-	2/6	4/-	6/-	-	-
Plumbers' union, brass, lead to iron	2/9	3/9	5/6	8/3	10/6	19/3
Inspection cap and screw, brass	-	-	1/6	1/9	2/-	3/-
Brass tail pieces, 4" long	-	-	2/4	3/2	5/8	8/4
Do. 6" long	-	-	3/3	4/8	6/4	9/4
Brass thimble	-	-	2/11	3/7	5/11	7/8
Double lead tacks	-	-	1/4	1/6	1/9	4/8
Lead, 7 lb. P traps, 1½" seat	-	-	7/1	9/3	13/1	-
Lead, S do., as last	-	-	8/9	11/5	16/1	-
Galvanized wire guards	-	-	-	1/6	1/7	1/8
Copper do.	-	-	-	2/4	2/6	2/8
Solder: Plumber's 4½ lb.; Blowpipe 5½ lb.	-	-	-	-	-	-
Pipe lagging, 24 feet x 4 in.	-	-	-	-	-	4/6 per roll
Boss white jointing compound	-	-	-	-	-	2/- 1 lb. tin
Gaskin, 1/7 lb. Long dressed hemp, 2/3 per ½ lb. hank.	-	-	-	-	-	-

COPPER TUBES—Extract from B.S. 659/1944—

Nominal bore.	Outside diameter	Gauge.	Weight lb. per ft.	Price per lb. pence.	Price per ft. pence.
1 in.	1.0596	19	0.27	36½	9.79
1½ in.	1.0846	19	0.39	35	21.65
2 in.	1.1112	18	0.62	33½	23.03
2½ in.	1.1362	18	0.76	33	15.27
3 in.	1.1612	18	0.91	33½	30.26
4 in.	1.2128	17	1.40	34½	48.30

CAPILLARY TYPE CONNECTIONS—copper to copper

Each	1 in.	1½ in.	2 in.	2½ in.	3 in.	4 in.
Straight	1/8	2/4½	3/9½	4/11½	6/8	9/7
Bends	4/5½	5/5½	7/10½	10/9½	16/11	23/9
Tees	4/11	4/9½	7/8½	11/3½	16/10½	23/9
Brackets (Brass)	2/3	2/7	3/-	3/2	3/7½	4/8

GLASS

English flat drawn Sheet Glass in squares, cut to size over 250 super feet.	Ordinary Glazing Quality
24 oz., do.	5½d.
36 oz., do.	7½d.
32 oz., do.	9½d.

Prices shown for Figured, Rolled and Cathedral, Rolled and Wired and Prismatic apply to quantities over 500 feet super.

Figured, Rolled and Cathedral glass, cut to size, per foot super: Tinted 10½d.

Prismatic glass, cut to size .. 1/2½ per foot super

Rolled and wired glass, cut to size, per foot super:

1/4" Rolled	7½d.
1/4" or 1/2" do.	8½d.
1/4" or 1/2" Rough cast	8½d.
1/4" Wired, rolled or cast	9½d.
Georgian wired cast	10½d.
1/2" Wired arctic.	1/8
Fluted (No. 4)	1/-
Feathered	1/-

POLISHED PLATE GLASS, cut to sizes, ordinary substance approximately 1/4 in. (Tariff)

Per foot super.	General Glazing	Selected Glazing Quality	Silvering Quality
In plates not exceeding 2 feet super in each	2/8	2/10	3/4
3 feet do.	3/-	3/5	4/1
5 feet do.	3/2	3/10	4/7
45 feet do.	3/9	4/1	5/7
100 feet do.	4/5	5/7	7/2

Extra sizes, i.e. plates exceeding 100 feet super in each, or 160 inches long, or 96 inches wide, at higher prices.

PAINTS AND VARNISH

	Price	Unit
Aluminium	35/9	Gallon
Dryers	24/-	Gallon
Distemper, washable (best)	90/-	Cwt.
Enamel, best white	57/-	Gallon
Knotting	27/6	Gallon
Gold Paint	86/6	Gallon
White Lead	183/6	Cwt.
Linseed Oil, boiled (5 gallon lots)	17/1	Gallon
Do. raw (do.)	16/8	Gallon
Mixed Paint (white lead)	57/6	Gallon
Putty	50/-	Cwt.
Size	8/-	Firkin
Tar	2/-	Gallon
Terebentine	18/-	Gallon
Japan	21/6	Gallon
Varnish, hard oak	33/6	Gallon
Do. copal	34/-	Gallon
Do. flat	34/-	Gallon
Whiting Gilders	8/-	Cwt.
Petrifying liquid	6/6	Gallon
Solignum	8/-	Gallon
Creosote	2/-	Gallon
Ceiling Distemper	32/-	Cwt.
Turpentine substitute	4/9	Gallon
Bitumen Solution	5/-	Gallon
Paperhangers' Paste	32/-	Cwt.



Hills Patent Glazing at York Road Station, Belfast, for the Northern Counties Committee, Engineer: N. C. Cain, B.Sc.

HILLS PATENT GLAZING

HILLS Lead Clothed Glazing Bars, hermetically sealed, have been tested and proved over many years, and have for long been adopted as standard practice. To fulfil the demand for an alternative to the traditional lead clothed bar, Hills also offer HILUMILUX Roof Glazing Bars which are fabricated from extruded alloy. A unique feature of these bars is the use of oiled asbestos cord, rolled and bedded into the aluminium cap to ensure a dust-and-water-tight fitting. Hills Patent Glazing includes all types of glazed Roofing, Lantern Lights, Deck Lights, Laylights and Ventilation, together with the necessary operating gear. Detailed information will gladly be sent on request.

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Hills Lantern Lights at New Factory for Messrs. W. Canning & Co. Ltd. Architects: Harry Bloomer & Son



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WRITE FOR DESCRIPTIVE BOOKLETS (A.B.N. 48)

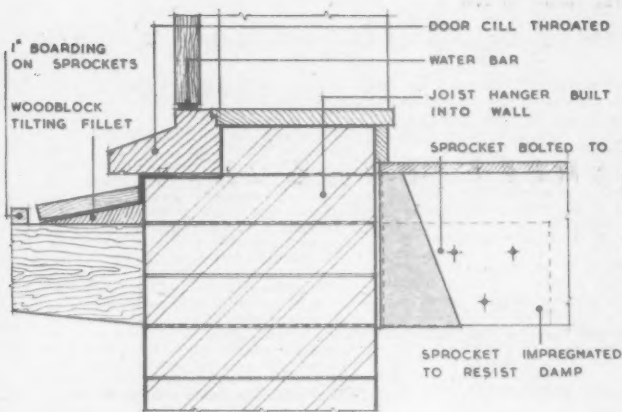


HARDWEARING FLOORINGS

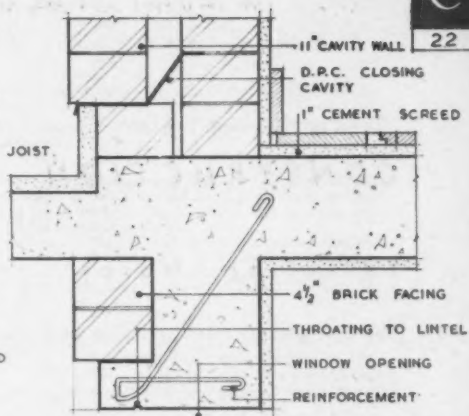
IN COLOURED ASPHALT OR DECORATIVE TILES

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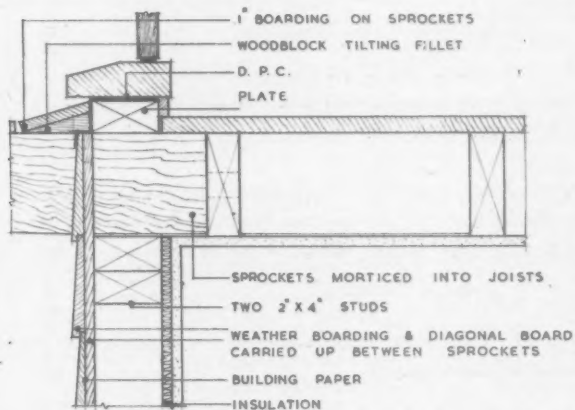
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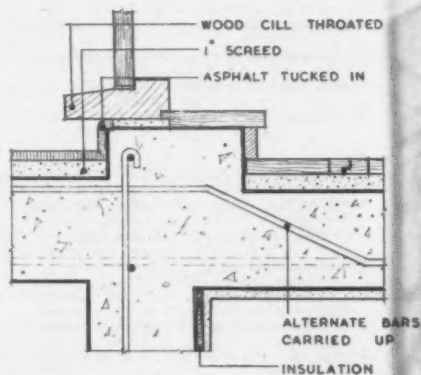
1. TIMBER BALCONY TO BRICK WALL



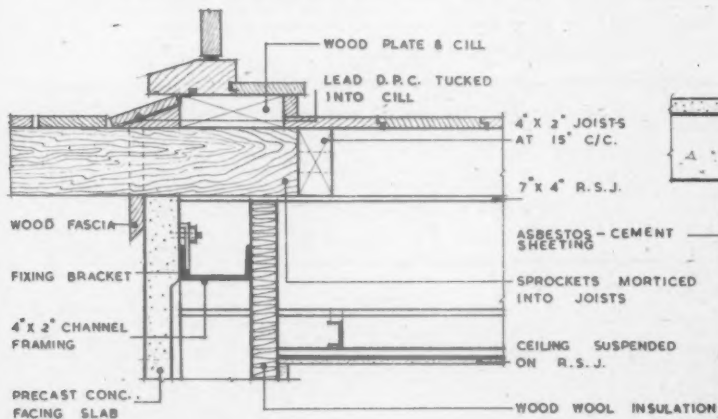
2. CONCRETE BALCONY TO BRICK CAVITY WALL



3. TIMBER BALCONY TO TIMBER FRAMED BUILDING

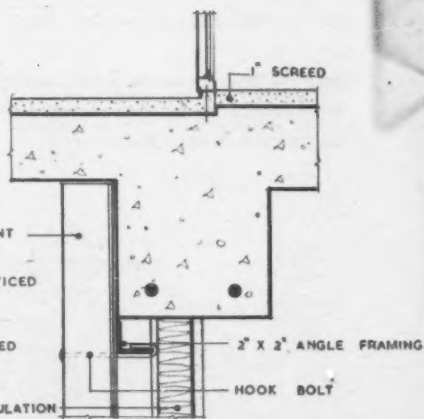


4. R.C. BALCONY TO R.C. MONOLITHIC WALL



5. TIMBER BALCONY TO STEEL FRAMED BUILDING

SCALE: 1/8" = 1' 0"



6. R.C. BALCONY TO BUILT-UP WALL OF ASBESTOS CEMENT SHEET

CONSTRUCTION SHEET L.2, C.22.

Editorial Notes

This sheet gives six details of balcony ends in various types of wall construction.

The sprockets carrying the balcony in detail (1) are bolted to the main floor joists which are supported on metal hangers. If the balcony were very wide it might be economical to carry the floor joists through as balcony supports. The sprockets should be pressure impregnated with creosote to resist damp.

The concrete floor in detail (2) is extended to form a balcony. A cavity brick wall is shown, the cavity being closed above the balcony by a flexible d.p.c. which is taken out to form a drip. The bottom course of the outer $4\frac{1}{2}$ in. brick skin is set back one-third of its width, thus forming a housing for the balcony screed finish. The additional reinforcement which would be necessary to tie that of the lintol to the floor is indicated.

In detail (3) the balcony sprockets are at right angles to the main floor joists. These sprockets are mortised into the first floor joist as indicated by the dotted lines. If the balcony were wider, the sprockets should be mortised into the second floor joist. In this case the first joist would be in short lengths and would be mortised into the balcony sprockets.

The arrangement of the reinforcing bars in a balcony to a 6 in. monolithic reinforced concrete wall is shown on detail (4). The asphaltic finish to the balcony is tucked in under the door cill.

In detail (5), the timber sprockets to the balcony are fixed as described for figure (3). A wood fascia is used as a filling between the sprockets. A slatted wood finish is used on the balcony, the first slat being raised on a tilting fillet, in order to prevent moisture collecting under the timber door cill under which a d.p.c. is provided.

Detail (6) shows a concrete balcony to a framed building with an asbestos-cement sheet facing. Additional reinforcement would be needed to tie the r.c. beam into the floor slab. This has not been shown but would be similar to that indicated in detail (2).

We welcome comments from readers. These will be summarised and published. Letters should reach us as early as possible to avoid time lag.

NEWS of the BUILDING INDUSTRY

INTEREST

THE NATIONAL FEDERATION OF BUILDING TRADES EMPLOYERS, in consultation with the Ministry of Works, is preparing full guidance on various aspects of costing building work as a means to improving output and reducing costs. In the meantime the Ministry of Works has issued two Advisory Leaflets, Nos. 13 and 14, introducing these subjects. Both the Advisory Leaflets are now published by H.M. Stationery Office.

"Introduction to Site Costing for Builders", Leaflet No. 13 has been prepared in response to a demand for a simple guide to site recording systems: the leaflet is designed to interest contractors and their supervisory staffs in operational or unit costs, and is therefore primarily concerned with labour output and costs.

"Introduction to Programming and Progressing for Builders", leaflet No. 14, explains how Programming and Progressing can ease the supervision of building projects. It is a companion leaflet to No. 13 and the two should be read together. Leaflet No. 14 will be of interest to the architect, the builder and the foreman. It gives examples of the use of Programming and Progressing as aids to cheaper building—from a simple progress record, to a comprehensive programme for the estimation and progressing of labour, material and plant requirements.

THE NATIONAL JOINT COUNCIL for the Building Industry has agreed to record, and issue to its constituents, the Settlement recently prepared by the Executives on the subject of Incentive Payments in the Building Industry. It also conducted the usual annual review under the cost-of-living clause in its Wages Agreement and decided that, in accordance with the sliding scale in that clause, a general increase of 3d. per hour is due to be operated from 5th February next.

After dealing with matters arising from Committee Reports the Council then heard evidence on a number of proposals submitted from both sides of the industry.

Mosaics are omitted from this issue to make space for the index of all Mosaics published since the start of the feature.

The fourth article in the series "Domestic Solid Fuel Appliances" by John Pinckheard will appear in the next issue.

These included the operatives' application for a general wage-increase of 6d. per hour and an employer's notice in favour of longer weekly working hours in those districts not already operating 46½ hours per week.

After considering the evidence the Council adjourned to enable two Committees (to report within a month) to examine the possibilities of reaching settlement on the proposals but decided, on the spot, to increase the remuneration of Watchmen from 15/- to 16/- per shift in London and from 13/- to 14/- elsewhere.

LIQUID FUELS are the subject of a series of six special lectures to be given at the Northampton Polytechnic, St. John Street, London, E.C.1, on Tuesday evenings at 7.0 p.m. The first lecture is on February 6. The fee for the course is £1. Application for admission should be made at the Polytechnic office between 10 a.m. and 7 p.m. or by post.

A £15 FINE was imposed on Jack Edrich Hall of Huddersfield who had pleaded "Not Guilty" to offering to sell a house for £2,000 when the sale price was limited under the terms of the licence to £1,325—the figure which Hall paid for the house. The plaintiff said he wanted £2,000 and that it was worth £2,000 but denied asking £2,000.

AIR CONTROL INSTALLATIONS LTD. have opened a branch office at 70, Mosley Street, Manchester, 2. Telephone Nos. CENtral 0679 and 0670. Manager: Mr. F. Wright, A.M.I.E.E., A.M.I.H.V.E.

MR. S. V. MERCER, Chairman of the Birmingham Branch of the Federation of Master Builders at the Branch's Annual General Meeting at Birmingham on January 16 said: "I sincerely hope that the new incentives agreement recently concluded

in the building industry will mean a big increase in the production rate of the industry and a consequent lowering of building costs.

"I only hope the new incentive schemes will not be used as a means of attracting operatives from one site to another without regard to increased productivity or lowered costs."

THE INAUGURAL LECTURE of a series which has been arranged for the training of General Foremen in the Building Industry was held at the City of Gloucester Technical College on January 10. The Principal, Mr. R. S. Reed, M.Sc., M.I.Mech.E., was in the chair.

Mr. D. E. Woodbine Parish, F.I.O.B., Chairman of the National Standing Committee for the Training of General Foremen spoke of the place held by the building foreman today. "All sections of the industry were agreed on the importance of proper training for building foremen," said Mr. Parish "and Great Britain was now leading other countries in the opportunities it offered in this direction." Nearly every building firm in the city and district sent representatives to the meeting.

A SAFETY COMPETITION open to all cement works in Great Britain and Northern Ireland has been inaugurated by the Cement Makers' Federation. This is a development of the scheme for the study of accident prevention throughout the Industry.

The basis of the competition is the International Frequency Rate of Accidents. Cement works are classified in divisions, and the unit in each division having the lowest frequency rate at the end of the year will be deemed the winner. Bronze plaque awards will be made by the Cement Makers' Federation and, in addition, a perpetual Challenge Trophy will be held by the works having the lowest frequency

(continued on page 127)

CORRESPONDENCE

The Editor,
Architect and Building News.

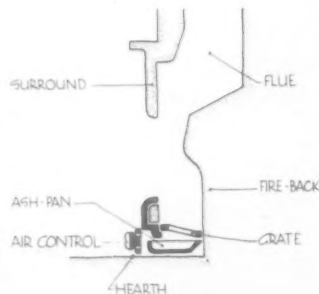
Dear Sir,

On p.707 of your current issue 29.XII.50 you give a sectional detail of a supposedly ideal way of constructing a flue for efficient consumption of fuel—as I understand the recommendations of the Dept. of Scientific Research and B.R.Sin. this is entirely wrong. They recommend that the throat instead of opening out at the top (6 in. above top of fire opening) it should decrease to a width of 4 in. only by the length of the fire opening usually about 15 in. to 18 in.

Furthermore the slope from the top of the fireback to back wall of rough brick opening is a mistake. The soot when the flue is foul tends to slide over this across the rather narrow raised hearth popular these days and on to the hearth rug.

This ledge should be flat. What Grant Romford termed the smoke shelf.

Nothing is said about the insulation around the fireback and this is essential. A



The section above is the fireplace referred to in Mr. Barker's letter.

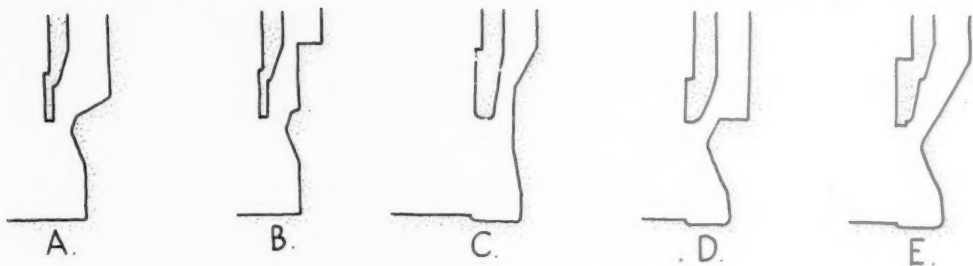
good insulation brick such as "Nonpareil" or a lightweight concrete made with Foamed Slag 10:1 mix is desirable if heat is not to be wasted and maximum efficiency obtained.

Yours faithfully,
Charles Barker.

Dear Sir,

I am indebted to Mr. Barker for drawing attention to several points of fireplace design with which I perhaps did not deal adequately in my article.

In the first place, however, the section in question did not purport to represent an "ideal way of building a flue" and was included only as stated in the caption, to indicate in a diagrammatic way the main components in a present day open fire. The point about the treatment at the throat of the flue is a debatable one. In B.S.1251:1945 sections of two fireplaces are included, one approximating closely to Fig. (1) in my



article and the other to the type advocated by Mr. Barker—that is if I interpret his letter correctly. A subsequent amendment (Amendment No. 1 June 49) has deleted both—presumably with the object of excluding controversial matter from the B.S. A similar division of opinion is also reflected in the diagrams included in the Draft Code of Practice 131:101 "Flues for Domestic Appliances Burning Solid Fuel" (p.48) and the ambiguity is also perpetuated in B.R.S.

Digest No. 16 "Domestic Heating by Solid Fuel" Feb. 1950, where again sections of both types are shown (Figs (1) and (4)). It would be useful if this old argument could be cleared up once and for all and maybe the laboratory work on flues now in progress will furnish the answer. To illustrate issues I append outline sections based on diagrams from the two first official publications mentioned.

The importance of effective insulation at

the back of the fireplace was not stressed in my article and my only excuse for not so doing is that being mainly pre-occupied with the improvements which have taken place in recent years I rather took the insulated fire-back for granted but it is, as Mr. Barker says, essential.

Yours faithfully,
John Pinckheard

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GOOD, BAD OR INDIFFERENT?

No. 20—By A. FOREMAN

Ventilation under floors

I AM often asked how many air-bricks ought to be put in to ventilate the space under joisted and boarded ground floors. It is difficult to answer such a question as it depends so much on the shape of the under floor space, how much it is divided up and whether any part of the ventilated floor adjoins a solid floor. I have never seen in print any reliable results of experiments on which a decision or definite recommendation could be based; bye-laws are usually vague and ask for adequate ventilation upon which the interpretations of building inspectors are extremely variable.

Ventilation without "dead" pockets is of the utmost importance if troubles, such as dry-rot, are to be avoided; a relatively small but constant current of air is all that is essential. Air circulation removes any moisture which tends to form due to rising dampness and even in exposed places moisture drawn into the air-space through the vents is very quickly dried out again.

Air-bricks, whether of burnt clay, concrete or metal have only a small area of clear air-hole space out of the total face area; for example, a typical air-brick $8\frac{1}{2}$ in. \times 2½ in. (nominally 9 in. \times 3 in. which is the same size as the nominal South-country brick), has about 14 holes, each about $\frac{1}{4}$ in. by $\frac{1}{4}$ in. and is only equal to about 2 sq. in. of clear space. It is important that the individual air holes are not large enough to allow mice to enter. There is a good test for this in B.S.493 which says the holes or slots (louvre types) must not allow a steel ball of $\frac{1}{8}$ in. diameter to pass.

I have heard it suggested that the amount of free air-space should be as high as

1½ sq. in. per ft. run of the enclosing walls of the space to be ventilated but if ordinary terra-cotta air-bricks are used this would require almost a continuous course of gratings if the 9 in. \times 3 in. size is used; I have found however, that 9 in. \times 3 in. gratings or air-bricks at about 3 ft. centres are usually quite satisfactory to provide a good current of air.

These vents must be distributed so as to give cross ventilation and particularly so that the corners of the space are not liable to become pockets of "dead" air. Any obstructing walls, such as sleeper walls, must be built honey-comb fashion and cross walls which interrupt the air-flow between vents in external walls should have openings formed in them of the same area as that of the external ventilators. If the space is not obstructed by cross walls, vents on two opposite walls are sufficient.

It should be remembered that an excess of air cools the underside of the floors. Precautions should in any case be taken to reduce the heat loss through joist and boarded floors and to stop draughts due to air penetrating at the junction between floors and walls. Tongued and grooved flooring should always be used over ventilated spaces. The cooling of the underside of the floor may be reduced by laying one of the many types of insulating quilt or foil over the floor joists before fixing the boarding and turning it up at the edges so that it is squeezed against the walls by the skirting or the fixing grounds for the skirting; such a treatment using $\frac{1}{2}$ in. glass wool quilt reduces the heat loss greatly, in fact the "U" value falls from 0.40 to 0.16.

The most difficult type of space to ventilate properly is one in which part or the whole of one or more enclosing walls are backed by solid floors which prevent the use of the normal gratings; this condition often arises with semi-detached and terrace houses and I have seen far too many jobs where the lack of precautions to provide cross ventilation has caused dry-rot. In such cases one or two lines of 3 or 4 in. drain pipes connected to the external vents should be laid under the solid floor to convey air to the ventilated space.

It is important to make sure that where vents pass through cavity walls a proper seal is formed round the vent openings; generally this is most easily achieved by bedding slates all round the opening but I have seen some open-ended asbestos-cement boxes, the upper surface of which is shaped to throw off moisture which may have entered the cavity. These would simplify the operation considerably and make a better, but possibly more costly, job.

Even in driving rain not much moisture seems to penetrate air gratings, especially some of the better designed types, but in exposed positions it is wise to make the opening fall to the outside and to have the lining of impervious material such as the slate referred to above. As an increased precaution even if the spaces under the floors are adequately ventilated, I think it is well worth while to take the extra precautions, involving a relatively small extra cost, of having all the timber treated with preservative so as to make quite sure that dry-rot or other decay cannot occur should the air circulation not operate properly.

(continued from page 125)

rate of all competing units. The first awards will be made at the end of 1951, based on the returns for the year.

"Accidents will Happen" is a phrase commonly used; that they can be reduced as a consequence of special effort is, however, shown by the figures of the largest group of factories in this Federation. Whereas in 1927 there were 868 lost time accidents on their works, a gradual reduction has been effected year by year until in 1949 there were 350. This is a reduction of 518 or 59%, despite the greatly increased output of cement in recent years.

The Federation have every hope that this innovation will make a valuable addition to the efforts already made in preventing accidents in the industry.

DESPITE REARMAMENT, it is important that this country should maintain a high level of exports to dollar markets.

The Board of Trade issued last week a new publication entitled "Exporting to Canada," (H.M. Stationery Office, Kingsway, price 2/6, or at any bookseller). This booklet has been compiled in the Department with the help and advice of the United Kingdom Senior Trade Commissioner in Canada and his staff. It differs from the publications in the regular Board of Trade series of "Overseas

Economic Surveys" in that it concentrates on the more immediate and practical problems which confront the exporter.

THE COUNCIL FOR CODES OF PRACTICE for Buildings has now issued in final form Chapter IX, "Durability," of the Code of Functional Requirements of Buildings. This chapter was previously issued as a draft for comment, and has now been revised in the light of comments received, by the Council's Technical Consultative Group.

The chapter contains brief notes on the designed life, satisfactory life and maintenance requirements of buildings or parts of buildings. Six appendices giving useful general information are included.

In these appendices the particular causes of deterioration of buildings and installations are analysed, and appropriate protective and preservative treatments are recommended. Information is given on the susceptibility of building materials to deterioration, in particular of metals, timber, cement products, stones, clay bricks and tiles, bituminous materials and paints. Other matters dealt with in the appendices are the effect of design upon the durability of materials, the classification of water supplies in relation to their effect upon metals, of ground water and soil in

relation to their effect upon concrete, and of atmospheric pollution conditions.

The chapter includes tables giving approximate rates of corrosion of steel and of zinc coatings on steel, recommended protective measures for metals, and a classification of sulphate soil conditions affecting concrete, with recommended precautionary measures.

Copies of the chapter may be obtained from the British Standards Institution, 24/28, Victoria Street, London, S.W.1, Price 4/-, post free, reference CP 3—Chapter IX.

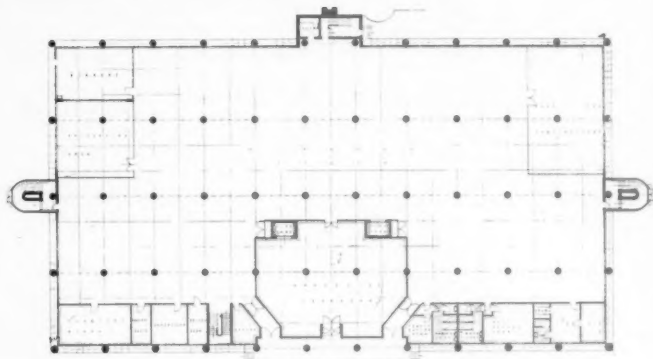
THE GOVERNMENT OF THE REPUBLIC OF IRELAND has frozen the prices of a large range of building materials including, bricks, roofing slates, tiles, concrete products, rainwater goods, sanitary goods, asbestos cement products, cement, plaster, fireclay products, plaster products, metal casements, ranges, gratings, stoves, roofing felt, sheet and pipe lead, paints, varnishes, putty, wallpaper, nuts, bolts, nails, screws, rivets, sand and lime at the prices charged on 2nd December, 1950.

The Order also applies to those commodities of which the maximum prices were already controlled. These include imported timber and Irish sawn timber.



HIS MAJESTY'S
STATIONERY
OFFICE,
at
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EDINBURGH

Architect :
STEWART SIM, F.R.I.A.S., F.S.A.(Scot.).



Ground floor plan and, above, a view from South East.

This warehouse, situated on the Edinburgh Corporation Industrial Estate at Sighthill was opened by Lord Morrison on December 9, 1950.

The Ministry of Works, through Sir Charles Male, the Director of the Ministry of Works and with Mr. W. A. Ross, Director of Works and Services (Scotland) decided on a pre-stressed concrete form of erection, the pre-stressing being applied to the 200 main and 750 secondary beams used in the building. This has made possible a saving of some sixty per cent of the steel required for an equivalent steel framed structure.

Relatively few pre-stressed structures have been built either in Britain or abroad and this is probably the most ambitious building of the kind so far erected.

Provision of 75,000 square feet of storage space was stipulated by the Stationery Office. This has been arranged on three floors each of 25,000 square feet capacity. In addition accommodation for offices, etc., has been arranged along the south front of the building. A boilerhouse and Pump Room for the automatic sprinkler system has been placed at the rear attached to the main fabric.

Two factors influencing the design of the building were the economical stacking height from floor to floor of 12 ft. and the fact that the building comes within the Turnhouse air funnel which restricts the total height

to 50 ft. Allowing for tank and motor rooms on the roof, a three-storey building naturally resulted. The building is 220 ft. long by 120 ft. wide. Column spacing is on a 20 ft. by 30 ft. grid. The columns are in normal reinforced concrete vibrated. But all floor and roof beams are pre-stressed.

Two systems of pre-stressing have been used—(a) the Magnel-Blaton post-tensioning system with sandwich plate anchorages for all beams except the roof secondaries where (b) pre-tensioned Hoyer members have been employed. The staircases, the lift well framing and the protective breast wall to the windows have normal reinforcement. The last, together with the through stressing of the ground and first floor secondary beams and the robustness of the columns, does much to bind together a structure where the window areas are very large and the construction is of the post and lintel type with the beams free to rotate at their bearings. The main beams weigh approximately $5\frac{1}{2}$ tons and are stressed by means of three cables, one consisting of 56 wires (straight) and two of 32 wires (curved). These wires, stressed to about 54 tons per square inch, are .2 of an inch diameter or approximately 6 gauge. The concrete, with a low water/cement ratio, is not stressed in the case of the Magnel-Blaton system units until a strength of 6,000 pounds per

(continued on page 130)



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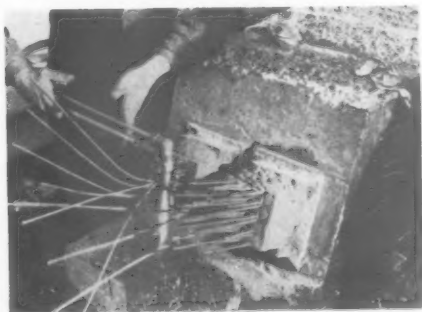
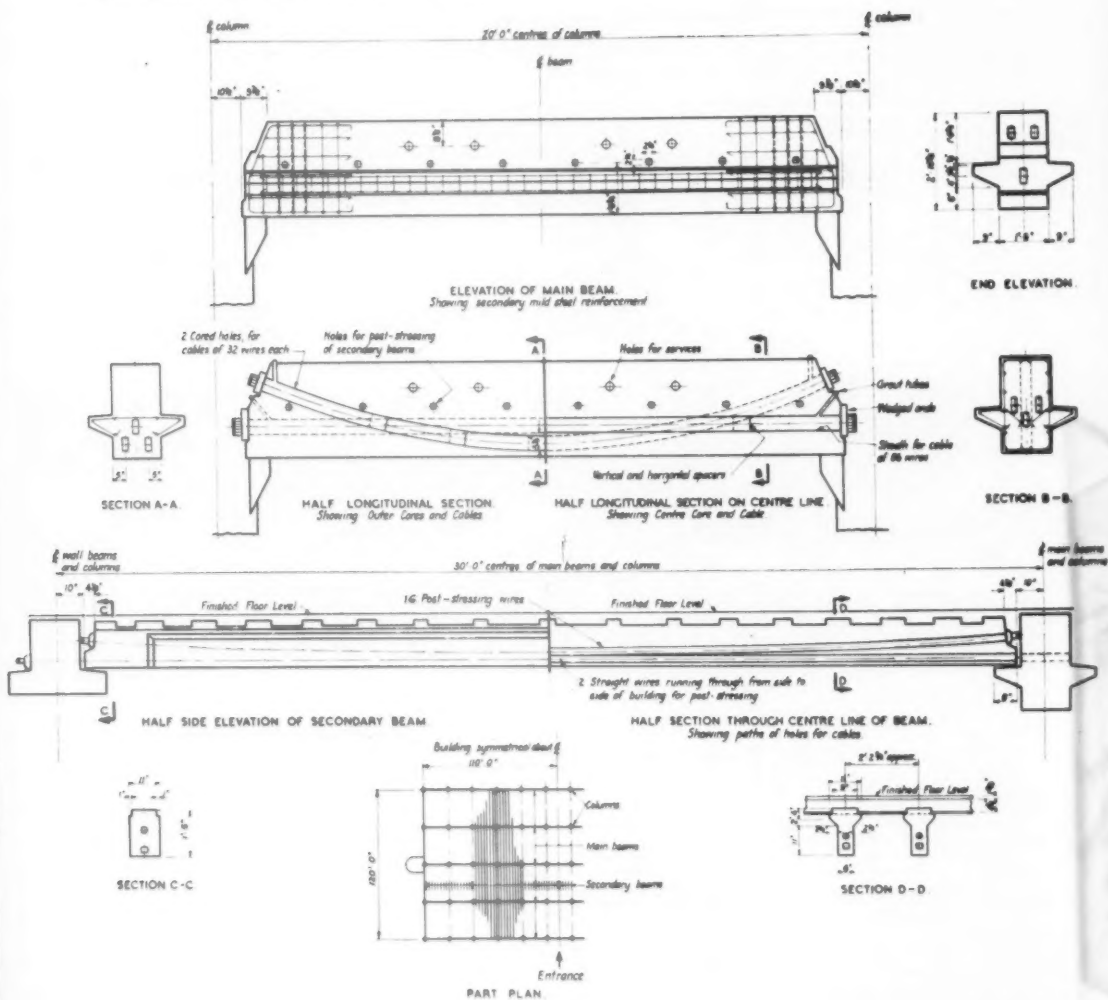
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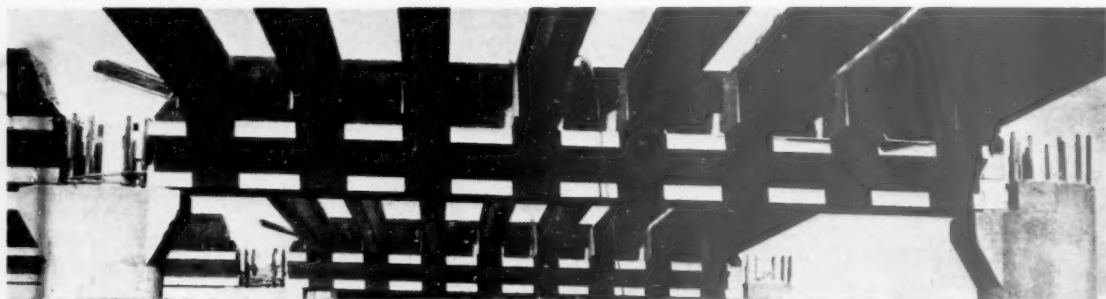
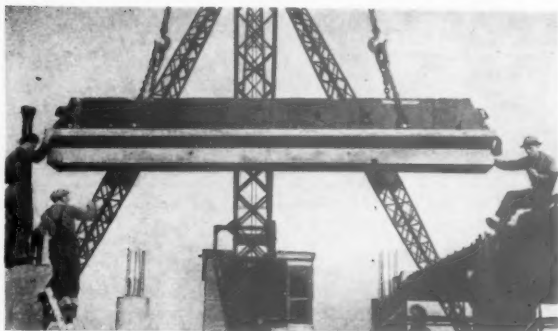
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Right, a beam which has been tensioned on the ground is lifted into position.

Below, the larger picture shows the relationship of main beams to column supports and of secondary beams to main beams.

The smaller picture shows the finished appearance of the columns, main beams and secondary beams.



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(continued from page 128)

square inch has been attained. The main beams span in the 20 ft. direction on the ground and first floors. On the second floor they span 30 ft. The secondary beams spaced at approximately 2 ft. 2½ in. and carrying a 4½ in. thick slab lightly reinforced, have recesses left in the top edge to key with the floor slab. They have two cables, a straight and a parabolic of 16 and 12 wires. The curved cables were tensioned before the beams were erected. The straight cables were threaded through the secondaries for the full width of the building and tensioned when the secondaries were in position. The weight of the secondaries is approximately 1½ tons. The Hoyer beams used on the roof construction are about 15 cwt. each and have 33 wires taking about three-quarters of a ton and of approximately No. 12 gauge.

Other points of interest are the employment of plastic partitions in the

lavatories, the use of a one pipe copper plumbing system and the fact that the roof drainage is taken in rainwater pipes down the centre of the columns. The floor loads, for which provision had to be made, are unusually heavy. The ground floor is designed to take 10 cwt. per super foot. The first and second floors 3 cwt. per super foot.

So far as possible the piping for the various services has been taken through the beams so as to leave the working space free of obstruction and to give a clean-cut appearance to the interior. Holes were cast through the concrete beams to permit this to be done. The storage part of the building is heated by means of automatic temperature controlled unit heaters with averaging thermostats. The offices have a low pressure hot water radiator system. Instantaneous gas heating is provided where hot water is required. An automatic sprinkler system is being installed.

Notes below give basic data of contracts open under locality and authority which are in bold type. References indicate: (a) type of work, (b) address for application. Where no town is stated in the

CONTRACT • NEWS •

address it is the same as the locality given in the heading, (c) deposit, (d) last date for application, (e) last date and time for submission of tenders. Full details of contracts marked * are given in the advertisement section.

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AUSTRALIA-DEPT. OF WORKS AND HOUSING. (a) 750 prefabricated houses to be erected at Canberra. (b) L. J. Norris, Room 316, Australia House Strand, W.C.2. (c) Mar. 27.

BANSTEAD U.C. (a) 68 houses, 2-storey block of 4 flats at Chipstead Road Estate. (b) Council's Clerk, The Council House, Brighton Road. (c) 2 Gns. (d) Feb. 5.

BRIDGE-BLEAN R.C. (a) 6 pairs of houses, 3 blocks of 4 houses, Bekesbourne, near Canterbury. (b) Building Surveyor, Council Offices, Old Dover Road, Canterbury. (c) 2 Gns. (e) Feb. 13.

BROWNHILLS U.C. (a) 52 houses, 4 shops and 8 flats on Bridge Road site, Sheldfield. (b) Messrs. Jennings, Homer & Lynch, 3-5 Church Street, Brierley Hill, Staffs.

CLEETHORPES B.C. (a) 14 houses, block of 4 houses, block of 4 houses, pair of houses on Highgate site No. 4. (b) Borough Engineer, Council House. (c) 2 Gns. (e) Feb. 7.

COWES U.C. (a) 88 houses on Beatrice Avenue site, East Cowes. (b) Engineer and Surveyor, Northwood House. (c) 2 Gns. (e) Feb. 6.

CROYDON B.C. (a) Kitchen and dining-room at St. Mary's R.C. School, Wellesley Road and classroom block at St. Christopher's School, London Road, Thornton Heath. (b) Chief Education Officer, Katharine Street. (c) £1. (e) Feb. 23.

DERBY B.C. (a) (1) Alterations to Christ Church Junior and Infants' School, Burton Road; (2) Extensions to Nightingale Road Infants' School. (b) Borough Architect, The Council House, Corporation Street. (c) 2 Gns. each contract. (d) Jan. 26. (e) Feb. 26.

EGHAM U.C. (a) 46 houses on Thorpe Road Estate. (b) Engineer and Surveyor, Fire Station Buildings, High Street. (c) 2 Gns. (e) Feb. 15.

ETON R.C. (a) Block of 4 flats at Burnham; 8 blocks of 4 flats and 8 houses at Datchet; Block of 3 shops with flats above and a block of 9 garages at Hedgerley. (b) Council Offices, Windsor Road, Slough. (c) 3 Gns. (d) Jan. 5.

HOOLE U.C. (a) 24 houses at Linden Grove and Hoole Estates. (b) Robert Boot, 22 Newgate Street, Chester. (c) 2 Gns. (e) Feb. 12.

ISLE OF WIGHT C.C. (a) Improvements to Cowes Branch Library. (b) County Architect, County Hall, Newport. (c) 1 Gn. (e) Feb. 19.

LINCOLN C.C.—PARTS OF KESTIVEN. (a) Secondary school at Spilsby. (b) County Architect, County Offices. (c) 3 Gns. (e) Feb. 23.

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LONDON—BARNES B.C. (a) 14 houses and flats, Kingsway, Lower Richmond Road, Mortlake, S.W.14. (b) Borough Engineer, Municipal Offices, Sheen Lane, S.W.14. (c) Feb. 14.

MANCHESTER C.C. (a) Alterations and adaptations to Lisnara, 54 Barlow Moor Road, Didsbury, and Forrest Hill, South Downs Road, Bowden, Ches., to form aged persons' homes. (b) City Architect, Town Hall. (c) 1 Gn. each contract. (e) Feb. 7.

MANCHESTER C.C. (a) Alterations, adaptations and repairs to Didsbury College for conversion into teachers' training college. (b) City Architect, Town Hall. (c) 1 Gn. (e) Feb. 9.

NEW FOREST R.C. (a) 14 pairs of houses on site No. 43, Langdown Park, Hythe. (b) Engineer and Surveyor, Council Offices, Lyndhurst, Hants. (c) 2 Gns. (e) Feb. 5.

NORFOLK C.C. (a) Alterations and extensions at The Elms, Earsham, near Bungay, to form old persons' home. (b) County Architect, 27 Thorpe Road, Norwich. (e) Feb. 5.

NORTHAMPTON B.C. (a) 15 houses, Contract 6; 24 houses, Contract 7; at Sunnyside, Harborough Road. (b) Borough Architect, Guildhall. (c) 2 Gns. (d) Jan. 26. (e) Feb. 19.

NORTH RIDING E.C. (a) Modern school at Eston, near Middlesbrough. (b) Messrs. Horth & Andrews, Custom House Buildings, Whitefriargate, Hull. (e) Feb. 8.

PRESTON B.C. (a) (1) Alterations at Central Police Station, Earl Street and Briley Street, and (2) alterations to Central Kitchen, Civic Hostel, Fulwood, and (3) alterations to Burrow Bank, Garstang Road, Fulwood, to form children's nursery. (b) Borough Engineer, Municipal Buildings. (c) 2 Gns. (c) for (1) Feb. 9, (2) Feb. 12, (3) Feb. 19.

SOUTHAMPTON B.C. (a) Repairs and improvements at Western Secondary and Infants' Schools. (b) Borough Architect, Civic Centre. (c) 1 Gn. (d) Jan. 30. (e) Feb. 26.

SOUTHAMPTON B.C. (a) Alterations and repairs to buildings at the Technical College, St. Mary's Institution. (d) Borough Architect, Civic Centre. (c) 2 Gns. (d) Feb. 5. (e) Mar. 14.

STAVELEY U.C. (a) 22 houses on Inkersall Green Estate. (b) Engineer and Surveyor, Council Offices, Lowgates, Staveley. (c) 2 Gns. (e) Feb. 8.

***ROCHDALE B.C.** (a) Adaptation of Holland Street Mill to form Municipal Technical College. (b) Borough Surveyor, Town Hall. (c) 2 Gns. (e) Mar. 1, 9 a.m. See page 35.

***CANTERBURY C.C.** (a) 18 Old People's Homes at "The Holt," London Road. (b) City Architect, Municipal Buildings. (c) 2 Gns. (e) Feb. 15, noon. See page 35.

WALLASEY B.C. (a) Alterations to Old School House, Breck Road. (b) Borough Architect, Town Hall. (c) 1 Gn. (e) Feb. 5.



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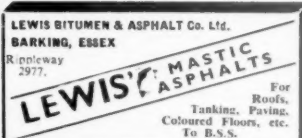
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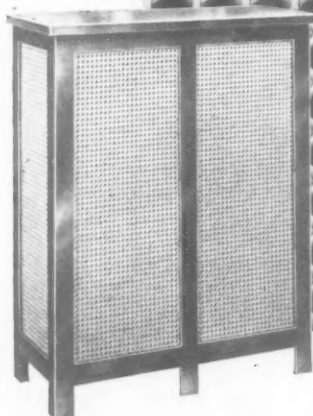


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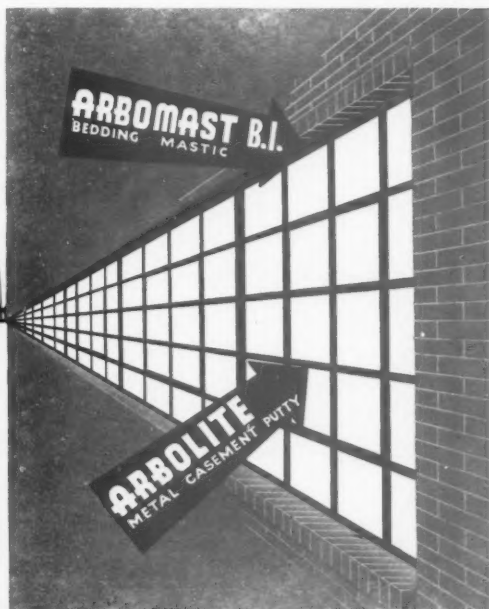
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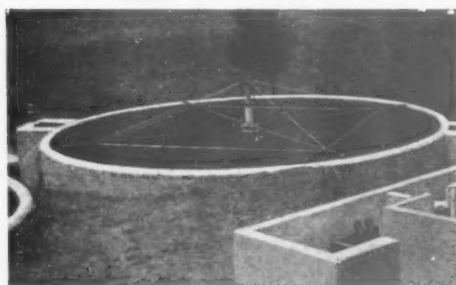
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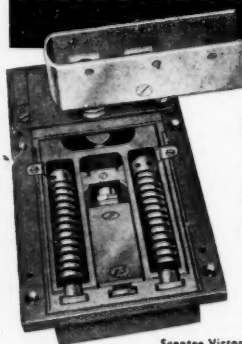


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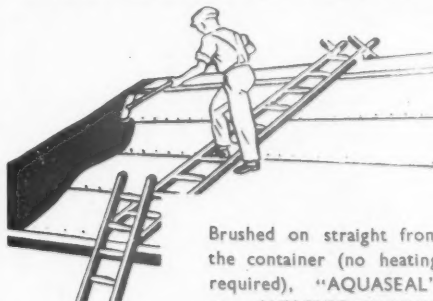


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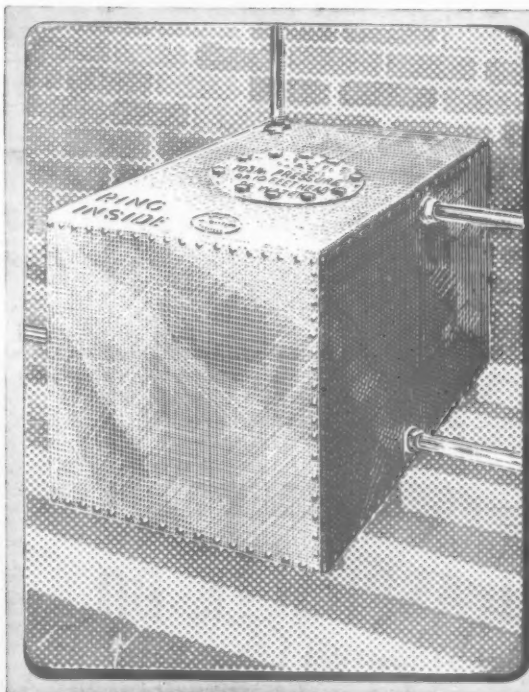


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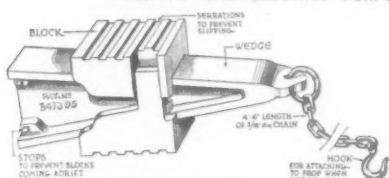
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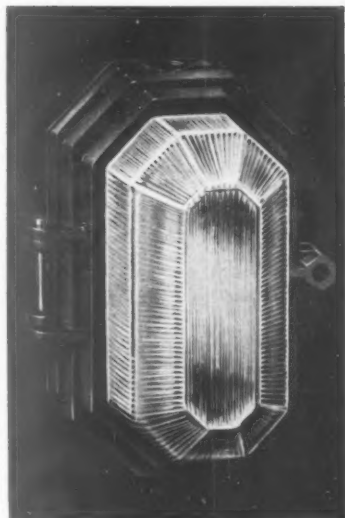


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APPOINTMENTS

LONDON COUNTY COUNCIL.

APPLICATIONS are invited for positions of **ARCHITECTURAL ASSISTANT** (salaries up to £500 a year) in the Housing and Valuation Department. Commencing salaries will be determined according to qualifications and experience. Engagement will be subject to the Local Government Superannuation Act, and successful candidates will be eligible for consideration for appointment to the permanent staff on the occurrence of vacancies.

Successful candidates will be required to assist in the design, layout and preparation of working drawings for housing schemes (cottages and multi-storey flats) and will be employed in the Housing Architect's Division.

Forms of application may be obtained from the Director of Housing, The County Hall, Westminster Bridge, S.E.1 (stamped addressed envelope required and quote reference A.A.1). Canvassing disqualifies. (816). [1010]

ARCHITECTURAL ASSISTANTS urgently required. Qualifications: At least three years' Architectural training and, preferably, some experience in an Architect's office. Ability to carry out under supervision working drawings of small works from prepared sketch plans, and elevations. Knowledge of subsidiary duties common to an Architect's office. Some testimonials already accepted and/or in a position to sit for the Intermediate Examination of the Royal Institute of British Architects.

The commencing salary at age 21 years is £285 per annum rising to a maximum of £495 per annum. Entering salary is increased by £20 per annum for each year of age above 21 years, subject to a maximum commencing salary of £420 per annum. The posts are in Cambridge. Although these posts are not established appointments, some of them have long term possibilities and competitions are held periodically to fill established vacancies.

Apply to Ministry of Works (R.D.I. Establishment). Block "A," Brooklands Avenue, Cambridge. [5138]

HIS MAJESTY'S COLONIAL SERVICE. NIGERIA.

APPLICATIONS are invited for the post of **LECTURER** in Architecture and Building Construction in the Technical Institute, Yaba, Nigeria. Candidates must possess the A.R.I.B.A. qualification. They should have had some experience in Design, Construction and Supervision of houses and Public Buildings. Previous teaching experience is desirable but not essential.

Under the direction of the Principal the successful candidate will be required to take charge of the Architectural and Building Section of the Institute, including the organisation of Courses of Instruction. Duties cover both day and evening sessions.

Post is permanent and pensionable subject to a period of probation. Salary (including gratuity pay) in the scale £560-£1,300 per annum according to qualifications and experience. A cost of living allowance is also payable. Free first class passages for officer and wife, and allowances for children's passages are provided. Generous home leave after eighteen months' tour. Income tax at local rates, which are much lower than in the United Kingdom. Forms of application may be obtained from the Director of Recruitment (Colonial Service), Sanctuary Buildings, Great Smith Street, London, S.W.1, quoting 27054/104/Tech. Closing date for receipt of applications, 17th February, 1951. [5155]

EDINBURGH COLLEGE OF ART

SCHOOL OF ARCHITECTURE.

APPLICATIONS are invited for the post of **ASSISTANT, Grade II** (full-time) on the Teaching Staff of the College. Salary scale £450-£20-£700 per annum, commencing salary according to qualifications and experience.

Forms of application and conditions of appointment can be obtained from the Secretary, Edinburgh College of Art, Lauriston Place, Edinburgh, 3, and should be returned to him not later than 9th February, 1951. [5160]

THE UNIVERSITY OF LIVERPOOL.

APPLICATIONS are invited for the post of **LECTURER and STUDIO INSTRUCTOR** in the School of Architecture at a salary of £550-£50-£1,100 per annum.

Applications, accompanied if possible by drawings, names of two referees, should be received not later than 8th February, 1951, by the undersigned, in the form of photographs of work, two testimonials and from whom further particulars of the conditions of appointment may be obtained.

STANLEY DUMBELL, Registrar. [5181]

THE CIVIL SERVICE COMMISSIONERS give notice of a Supplementary Reconstruction Competition for pensionable appointments as **DRAUGHTSMEN**, (a) Architectural and Civil Engineering, and (b) Mechanical and Electrical Engineering.

Applications will be accepted at any time up to 31st March, 1951, and selected candidates will be interviewed as soon as possible after the receipt of their application forms.

Candidates must have been born on or after 2nd August, 1905, and on or before 1st August, 1928, with extension for regular service in H.M. Forces. They must have obtained by 31st March, 1951, the Ordinary National Certificate of equivalent qualification; but for post of Architectural Draughtsman candidates without such qualification may be admitted exceptionally on evidence of training to an equivalent standard. Candidates must also have three years' practical experience including one year in a Drawing Office.

Opportunities for promotion. Regulations and application forms from Civil Service Commission, Scientific Branch, Trinidad House, Old Burlington Street, London, W.1, quoting No. 3219. [5170]

URBAN DISTRICT OF SEAHAM.

ARCHITECTURAL ASSISTANT.

APPLICATIONS are invited for the above appointment from Registered Architects or persons who have passed the Final examination of the R.I.B.A.

The salary payable will be within Grades V and VI of the National Scales (£520-£660) according to qualifications and experience. The appointment will be subject to the Local Government (Superannuation) Act, 1937, and the successful candidate will be required to pass a medical examination.

Housing accommodation will be provided, if necessary, for the person appointed.

Detailed applications, giving the names and addresses of two referees, must reach the undersigned not later than the 1st February, 1951.

F. A. ALDERSON, Clerk of the Council, Council Offices, Seaham, Co. Durham. [5173]

BOROUGH OF CHATHAM.

AMENDED ADVERTISEMENT.

APPOINTMENT OF CHIEF ASSISTANT ARCHITECT.

APPLICATIONS are invited for the appointment of Chief Assistant Architect within Grade VII (£615-£710).

Housing accommodation will be made available if required.

Conditions of appointment and form of application may be obtained from Mr. H. D. Peake, M.S. (Eng.), Borough Engineer and Surveyor, Town Hall, Chatham, to whom completed application forms should be returned not later than Wednesday, 14th February, 1951. [5175]

COUNTY BOROUGH OF GREAT YARMOUTH.

APPOINTMENT OF CLERK OF WORKS.

APPLICATIONS are invited for the appointment of **CLERK OF WORKS** to act under the direction of the Borough Engineer in the supervision of the erection of six-storey flats.

Applicants should have a thorough knowledge of the building trade, the erection of multi-storied flats, of steel frame building and pile foundation. Membership of the Incorporated Clerk of Works Association of Great Britain would be an advantage.

The salary will be £12 per week.

Applications, stating age, qualifications and previous experience, together with the names of three persons to whom reference may be made should be enclosed in an envelope endorsed "Clerk of Works," and must be received by me not later than Monday, 5th February, 1951.

Canvassing, directly or indirectly, will be deemed a disqualification, and candidates must disclose, in writing, whether, to their knowledge, they are related to any member, or holder of any senior office under the Council. Candidates who fail to do so will be disqualified and, if appointed, will be liable to dismissal without notice.

FARRA CONWAY, Town Clerk, Town Hall, Great Yarmouth, 18th January, 1951. [5178]

BRACKNELL DEVELOPMENT CORPORATION invites applications from suitably qualified persons for the following appointment: **ARCHITECT** (Housing). Salary £550 x £40 - £750.

Applicants should be Corporate Members of the R.I.B.A. and an additional town planning qualification will be an advantage.

The successful applicant will be engaged on the design and construction of large housing layouts, and will work under the direction of E. A. Ferry, B.Arch., A.R.I.B.A., A.M.T.P.I., Chief Architect to the Corporation.

The post will be superannuable under the Local Government Superannuation Act, 1937, and the successful candidate will be required to pass a medical examination.

Applications, giving full particulars of the candidate's age, qualifications and experience, together with the names of two persons to whom reference can be made, must reach the General Manager, Bracknell Development Corporation, Farley Hall, Binfield, Bracknell, Berks, on or before 19th February, 1951, marking envelope "Architect." [5176]

MINISTRY OF WORKS.

SENIOR ARCHITECTURAL ASSISTANTS are required in the Chief Architect's Division who have had first class experience and who are capable of supervising drawing office staffs. Vacancies exist in London, Edinburgh, Newcastle, Leeds, Birmingham, Manchester and Capenhurst (Cheshire). Assistants will be employed on a wide variety of Public Buildings, including Atomic Energy and other research Establishments, Telephone Exchanges, Office Buildings, etc. London salary, £625-£750 per annum. Salary elsewhere is slightly lower.

Although these are not established posts, many have long term possibilities.

Apply in writing, giving full details of age, qualifications and experience, to Mr. W. A. Rutter, C.B.E., F.R.I.B.A., Chief Architect, Ministry of Works, Abel House, John Islip Street, Westminster, S.W.1, quoting reference W.G.10/BE. Locality preferred should be stated. [5179]

LONDON COUNTY COUNCIL.

HOUSING AND VALUATION DEPARTMENT.

APPLICATIONS are invited for a position of **TECHNICAL ASSISTANT** in the Works Division at a commencing salary up to £700 per annum according to qualifications and experience. Professional qualifications are desirable.

Candidates must possess sound knowledge and experience of building construction, including thorough knowledge of London Building Acts, particularly concerning dangerous structures and party walls.

Experience must include supervision of Clerks of Works and direction of Contractors in demolitions, shoring and consequential making good and repair work.

The successful applicant will be considered for permanent appointment after a period of probationary service. Engagement superannuable.

Application forms, obtainable from Director of Housing and Valuer, County Hall, S.E.1, quoting BS.26, must be returned, within ten days of the appearance of this notice, stamped addressed envelope required. (82). [5180]

ISLE OF WIGHT COUNTY COUNCIL.

APPPLICATIONS are invited for the following appointments on the staff of the County Planning Officer—

PLANNING ASSISTANT. Salary Grade IV, A.P.T. Division of the National Scales (5450 x £15-£25). Candidates should have had good general experience in the office of a local planning authority and preference will be given to those who have passed the Intermediate or Final examination of an appropriate professional body.

JUNIOR PLANNING ASSISTANT. Salary Grade I, A.P.T. Division of the National Scales (£390 x £15-£415). Preference will be given to candidates who have had experience in the office of a local planning authority; the person appointed will be required to work as draughtsman on the preparation of the Survey and Development Plan maps.

Forms of application for both appointments may be obtained from the undersigned, to whom they must be returned completed, together with a copy of one recent testimonial and the names of two referees, not later than the 15th February, 1951.

L. H. BAINES, Clerk of the County Council.
County Hall, Newport, I.W.
22nd January, 1951. [5183]

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QUANTITY SURVEYOR required by the Mauritius Government for one tour of 3 years in the first instance. Fixed salary, according to qualifications and experience, payable in local currency equivalent at the present Government rate of exchange to between £750 and £900 a year plus cost of living allowance up to £180 a year. Gratuity, on satisfactory completion of service. Free passages. Liberal leave on full salary. Candidates should have had considerable experience of the normal duties of a Quantity Surveyor.

Apply at once by letter, stating age, full names in block letters, and full particulars of qualifications and experience, and mentioning this paper, to the Crown Agents for the Colonies, 4 Millbank, London, S.W.1, quoting M.2693/A on both letter and envelope. The Crown Agents cannot undertake to acknowledge all applications, and will communicate only with applicants selected for further consideration. [5185]

URBAN DISTRICT OF FELTHAM.

APPOINTMENT OF ARCHITECTURAL ASSISTANT.

APPPLICATIONS are invited for the appointment of ARCHITECTURAL ASSISTANT on the unestablished staff of the Engineer and Surveyor's Department at a salary up to Grade IV—the maximum salary of this Grade is £525 per annum plus the appropriate London Weightings of the Administrative, Professional and Technical Division of the National Scales. The Grade will depend upon the qualifications and experience of the successful applicant.

The appointment will be subject to (i) the National Scheme of Conditions of Service, (ii) the successful candidate passing a medical examination, and (iii) one month's notice in writing on either side.

Forms of application may be obtained from the undersigned, to whom they should be returned, accompanied by copies of two recent testimonials, not later than 10th February, 1951.

Canvassing will disqualify and applicants must disclose in writing whether, to their knowledge, they are related to any member of, or the holder of any senior office under the Council.

M. W. COUPE, Clerk of the Council.
Council Offices,
Feltham, Middlesex. [5186]

SCHOLARSHIPS

EDINBURGH COLLEGE OF ART.

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The College incorporates Schools of Architecture, Design and Crafts, Drawing and Painting and Sculpture.

Application forms and further particulars may be obtained from the Secretary, Edinburgh College of Art, Lauriston Place, Edinburgh, 3.
The latest date for receiving applications is 28th February. [5169]

COMPETITION.

COUNTY BOROUGH OF SOUTH SHIELDS.

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THE promoters invite Architects of British Nationality to submit designs in open competition for the above new buildings to be erected at South Shields.

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Conditions of Competition may be obtained on application to the undersigned, and must be accompanied by a deposit of Two Guineas.

HAROLD AYREY, Town Clerk,
Town Hall, South Shields.
January, 1951. [5171]

ARCHITECTURAL APPOINTMENTS
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ARGUMENTAL Assistants required for West End office. Salary £500 to £750 per annum, 5-day week.—Apply, giving details of qualifications and experience, Box 8152, The Architect and Building News. [5177]

NORMAN & Dawbarn require an Architectural Assistant of Intermediate Standard. Salary by arrangement.—Apply in writing, stating when available and giving age, particulars of training and experience, to 5 Goswami Street, W.C.1. [5174]

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THE Co-operative Wholesale Society Ltd. has vacancies for two Property Inspectors attached to the Estates Department, Manchester. Applications are invited from persons having sound knowledge of building construction and the building trade generally. Candidates should be capable of preparing concise reports and be familiar with plans, estimates, specifications, etc. They should hold a Building Inspector's Certificate or possess a Higher National Certificate in Building. The salary offered is £525 per annum.—Applications, stating age, experience and qualifications, to be addressed to the C.W.S. Limited, Central Labour Department, 1 Balloon Street, Manchester, 4, endorsed "Property Inspectors, Estate Department." [5168]

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Tenders in sealed envelopes endorsed "Tender for Technical College—Holland Street," must be delivered to the Town Clerk, Town Hall, Rochdale, not later than 9 a.m. on Thursday, the 1st March, 1951.

R. B. MOORE, Town Clerk. [5172]

CITY AND COUNTY OF CANTERBURY.

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Sealed tenders, enclosed in the endorsed envelope provided, must be received not later than 12 noon, Thursday, 15th February, 1951.

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L. RICH WILSON, City Architect.
Municipal Buildings, Canterbury. [5182]

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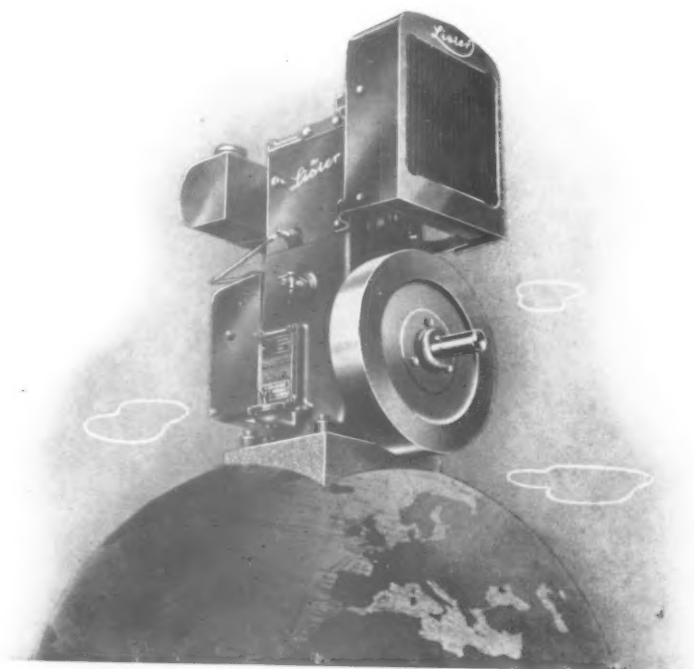
Adams, Robert (Victor) Ltd. 30	Dohm, Ltd. 29	Ioco Ltd. 27	Pilkington Bros Ltd. 2
Adshedd Ratcliffe & Co. Ltd. 26	Ellis School, The 36	Jackson Electric Stove Co. Ltd. 27	Pitman, Sir Isaac 33
Adams-Hydraulics Ltd. 28	Empire Stone Co. Ltd. 5	Kirk & Kirk Ltd. 23	Porn & Dunwoody 1
Adamite Co. Ltd., The 18	Engert & Rolfe Ltd. 23, 24, 25	Lewis Bitumen & Asphalt Co. . . 24	Porter, F. W. & Soar Ltd. 32
Anderson, D. & Sons Ltd. 25	Fibreglass Ltd. 21	Lid. 24	Reynolds, H. L. Ltd. 33
Bath & Portland Stone Firms Ltd. 32	Finch, B. & Co. Ltd. 21	Lister, R. A. & Co. Ltd. 24	Rolivat Tank Co. Ltd. 22
Betterways Ltd. 36	Floor Renovations Ltd. 25	Lockwood, R. Wm. 20, 23	Rubberware Co. Ltd., The 10
Berry Wiggins & Co. Ltd. 30	Freeman, Joseph, Sons & Co. Ltd. 13	Margolis, M. 24	Rubberware Ltd. 14
Beynon, T. & Co. Ltd. 8	Franks Compressed Pile Co. Ltd. 16	Mather & Platt Ltd. 3	Sharp Bros. & Knight Ltd. 7
Blackburn, Thomas & Sons Ltd. Inside	Furse, W. J. & Co. Ltd. 32	McCarthy, M. & Sons Ltd. 23	Sharran, R. W. Ltd. 23
Bright's Asphalt Contractors Ltd. 23	General Electric Co. Ltd., The . . 15	Minton Hollins Ltd. 36	Shuster Contractors Ltd. 31
Cannon, W. G. & Sons Ltd. 29	Gibson, Arthur L. & Co. Ltd. . . . 24	Modern Tile & Floor Co. Ltd. . . 25	Simpkin Marshall 28
Carisale Plaster & Cement Co. . . . 8	Goddard, R. J. & Co. Ltd. 25	Mullen & Lumsden Ltd. 23	Sissons, W. & G. Ltd. 20
Cedlon Ltd. 26	Grangemouth Iron Co. Ltd. 9	New Day Electrical Accessories . . 30	Smith, Wm. Allen & Co. Ltd. 14
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